

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Air Conditioning Notes
Who's Crazy Now?
Controversial Bravura
You Can't Beat
Cooperation

Stories of the Week

"Yass," said a panhandler, "I useter be well off. Managed a laundry, I did."

"What happened to you? Why are you begging?"

"She upped and left me."

"What did you learn at Sunday School?" Father unhooked a tiny blonde.

"Our teacher told us about when God sent Moses behind the enemy lines to rescue the Israelites from the Egyptians. When they came to the Red Sea, Moses called for the engineers to build a pontoon bridge.

"After they all crossed, they looked back and saw the Egyptian tanks coming. Moses radioed headquarters on his walkie-talkie to send bombers to blow up the bridge and save the Israelites."

"Tina, are you kidding me?"

"No, father, but if I told it the way that Sunday School teacher did, you'd never believe me."

In Max Shulman's hilarious "Rally 'Round the Flag, Boys!" a Vittorio diMaggio observes:

"Town Meeting, itsa lika opera. First one fella singsa aria, then another fella sticksa knife in his back!"

Air Conditioning Notes

A cool note was injected into a warm October week by Thomas E. Shawcross, city clerk of Highland Park, Michigan.

Trying to abet modern science with old-fashioned psychology, Shawcross put an eye-catching accessory on top of the shiny new air conditioning unit in his office window.

It was a small plastic Christmas tree.

Mr. and Mrs. J. P. Powell of Stockton, Mo., have cave-conditioned their home.

Discovering that they live over a cavern, the Powell's tapped the cave and now pump the cool underground air through their house.

Where are the Unions?

Who's Crazy Now?

Every Saturday afternoon a farmer came to town and bought three milk pails. Fourth time this happened a hardware salesman asked this farmer why he needed so many buckets.

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There'll Be Some Changes Made

Who Threw the Filter In FHA's ME-13?

By George M. Hanning

DETROIT — A sharp-eyed reader of the NEWS has picked out a flaw in the Federal Housing Administration's recently issued Mechanical Engineering bulletin ME-13 (revising air conditioning requirements) that might have caused some trouble to air conditioning contractors. William Kovacik, vice presi-

dent of Maple Service Co., St. Louis, brought the offending provision to the attention of the NEWS after reading the text published in the Sept. 9 issue. Now he is getting corrective action!

Paragraph 6 h. of ME-13 says:

"Filters shall be sized to pro-

vide not less than 1 sq. ft. of total face area per 300 c.f.m. of air and shall be readily accessible for cleaning or replacement."

That did not sound right to Kovacik. He could not see how a room air conditioner—which is covered by the new requirements for equipment installed in

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'58 RCA Whirlpool Room Units Feature Changeable Panel

ST. JOSEPH, Mich. — "High fashion" styling, with a changeable picture panel to conceal control dials, distinguishes the 1958 "RCA Whirlpool" air conditioning line introduced by Whirlpool Corp., the company announced.

Among the 15 new room units are "plug-in" models which operate on any adequately wired 115-volt circuit, according to the company.

A new mobile electric dehumidifier is also introduced and four central air conditioning systems for through-the-house cooling are included in the 1958 line.

To permit "maximum" light to enter a room, cabinets of "Imperial" model room air conditioners are less than 18 in. high, it was stated. The units

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For '58

G-E Redesigns Room Unit Compressors

HAVANA, Cuba — Completely redesigned compressors and radically different heat transfer surfaces will mark the 1958 line of General Electric room air conditioners, Paul H. Augenstein, general manager of G-E's room air conditioner department, revealed here recently.

Some 800 General Electric dealers and distributors were flown here to get a peek at the new line. The public will have to wait until after the first of the year for details, Augenstein said.

At the business meeting in Teatro Auditorium, Augenstein predicted industry sales would

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Trane Gets Big Plant Cooling Contract

LA CROSSE, Wis. — The Trane Co. has been awarded the contract to provide air conditioning equipment with capacities for delivering 3,250 tons of cooling for the new Martin Co. plant, now being erected at Orlando, Fla., Trane Vice President A. C. Menke revealed.

Approximately 422,000 sq. ft. out of a 488,000-sq. ft. total will be air conditioned—believed to be the largest industrial comfort cooling project in the coun-

try, the announcement said. In addition to employee comfort, the air conditioning will provide dust and humidity control important in the production of electronic equipment.

According to Menke, "Here is another tangible example of the growing acceptance of industrial air conditioning. Trane believes that this segment of the air conditioning market is headed for rather outstanding

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New Firm To Sell Gas Refrigerator Organize BHC In Cleveland

CHICAGO—A new firm, National Gas Appliance Corp., is prepared to market a gas absorption refrigerator here using components supplied by Electrolux Corp. of Stockholm, Sweden.

This was reported by Walker Sheriff, president of the new firm. He said that the company would produce an 8-cu. ft. model using the Electrolux components in an American style cabinet beginning in December.

Plans call for introduction of a 10-cu. ft. box next May and a 12-cu. ft. model next fall.

Prices would be about 20% under those charged by Servel, he indicated. He said National Gas Appliance planned to market the units through gas utilities that would sell and service them and, in other areas, through independent distributors or factory branches.

Other officers of the new firm are John W. Chamberlin, vice president, engineering; and Joseph Mollerndino, vice president, operations.

CLEVELAND—Formation of the Cleveland Better Heating-Cooling Council was announced following a "kick off" meeting here of more than 100 contractors, wholesalers, and manufacturers' representatives.

The group has organized and financed the new council under the banner of the national Better Heating-Cooling Council to promote sales of hot water and steam heating systems in the Cleveland trading area.

The Cleveland Council is the first in a chain of city councils expected to be set up shortly throughout the country in co-operation with the national BHC. Other groups in leading cities are reported ready to announce plans for the establishment of councils in their communities.

While the new Cleveland council is independently financed and managed, its year-round, professionally conducted promo-

(Concluded on Page 21, Col. 1)

Du Pont Sets Uniform Freon Price Policy

No Separate Pricing In Refrigerant Field

WILMINGTON, Del. — Du Pont's "Freon" Products Div. will institute a "one price" policy on all of its "Freon" refrigerants, aerosol propellants, and solvents, effective Dec. 26, in a move to help its customers "reduce distribution costs to the lowest possible level," the company announced.

The change means, it was explained, that any particular type of "Freon" compound will be sold at one uniform price schedule, regardless of the end use of the chemical.

"In the refrigeration field, it eliminates the current policy of separate pricing of individual 'Freon' refrigerants, depending upon whether they are sold to equipment manufacturers for original equipment charge or to the wholesale trade for resale to servicemen and contractors for replacement charges in existing equipment," the announcement said.

"Price differentials according to container size, of course, will be maintained."

At the same time, the company's "Freon" Products Div. announced that Ansul Chemical Co. of Marinette, Wis., and Virginia Smelting Co. of Norfolk,

(Concluded on Page 21, Col. 3)

Houston Leads Way In Room Unit Buying

HOUSTON, Texas — National sales figures show that Houston residents bought more room air conditioners during the 1957 season than did the residents of any other metropolitan area, claims Walter Steitler, president of Carrier-Houston Corp.

Houstonians purchased six room air conditioners for every five units purchased by New Yorkers, according to Steitler, despite the fact that the metropolitan New York population is about 12 times that of metropolitan Houston.

Houstonians purchased 32%

(Concluded on Page 21, Col. 3)

SHOW PARADE STARTS . . .

First of four, big issues previewing what's in store for you at the 10th Exposition of the Air Conditioning and Refrigeration Industry comes your way next week.

Emphasizing COMMERCIAL REFRIGERATION, it will give you an advance peek at what manufacturers of that equipment will show at the International Amphitheatre in Chicago, Nov. 18-21—plus feature stories devoted to many phases of commercial refrigeration.

Later come special preview issues on

Air Conditioning—Nov. 4.

Parts and Supplies—Nov. 11.

Big Show Issue—Nov. 18.

Start your show reading

... NEXT WEEK

Electric Space Heat Seminars Set In Phila.

PHILADELPHIA—Electrical Association of Philadelphia will sponsor electric space heating seminars Oct. 21 and 30 in the Edison Bldg. here. Previous seminars on the subject were Sept. 23, 30, and Oct. 14, the group said.

Paul Kaczmarczik of the electrical engineering department of Drexel Institute gives the course.

Sept. 23 meeting covered "Fundamentals of Electricity and Heat"; Sept. 30, "Heat Losses" and "General Procedure of Over-all Heat Loss Calculations"; Oct. 14, "Building Construction and Insulation."

Course Oct. 21 will cover "Kwh. Consumption, Equipment, Problems"; and Oct. 30, "Product Demonstrations," it was noted.

'Suitcase Sized'

Lewyt Builds Small 1-Ton Through-Wall Air Conditioner Which Fits 1/2-Ton Casing

LONG ISLAND CITY, N. Y.—Lewyt Air Conditioner Corp. announced that it has started production on a 1-ton, through-the-wall air conditioner measuring only 15 in. deep, 14 5/8 in. high, and 32 1/8 in. wide.

Alex Lewyt, president, compared the size of the unit with a suitcase. He said that work to minify a 1-ton unit started about a year ago, with engineering skill focused on a machine that would be no larger than the company's thin 1/2-ton unit introduced in 1954.

The unit's small size allows it to be used with convector heating, Lewyt pointed out.

The company said the new air conditioner is small enough to

"fit in a casing now housing the Lewyt 1/2-ton unit."

"This adaptable feature will allow apartment house tenants to replace their 1/2-ton units without alterations to change casings. The Lewyt unit slips inside a case with the same motion as a desk drawer."

The decision to introduce a small 1-ton unit "was reached by Lewyt after surveys in the building industry," according to the announcement.

"The reports showed a trend for convector heating, and in a large room only a small built-in 1-ton air conditioner could be used without creating a serious architectural problem," the company stated.

Labor-Management Group Opposes Congress' Anti-Bid Shopping Bill

WASHINGTON, D. C. — A joint labor-management committee, established to oppose the so-called "Anti-Bid Shopping" bill (H.R. 7168) now pending before the Senate, held its second meeting here on Oct. 14.

Membership of the committee is made up of subcontractor trade groups and AFL-CIO building trade unions.

TO SPONSOR PROTECTIVE LAW

The committee will direct its efforts toward sponsorship of a measure which will prevent bid-shopping and thus extend protection to all subcontractors and the tax-paying public, according to one of the member groups.

According to a report from

the National Association of Plumbing Contractors, one of the participating organizations, indications are that 10 or more subcontractor groups and their respective craft unions will actively oppose Senate passage of the bill next year.

Ray Kromer, executive vice president of the Refrigeration & Air Conditioning Contractors Association, attended the meeting at which the labor management committee was formed.

RACCA HAS TAKEN NO POSITION

Kromer said that RACCA has not yet taken a position on the bill. The matter will be taken up at the next meeting of the board of directors, which will be held during RACCA's annual convention in Chicago in November.

"Unofficially," he said, "we do not subscribe to the bill as it is written."

H.R. 7168 has passed the House and has been reported to the Senate by the Judiciary committee. The Senate adjourned before voting on the measure.

Charles Donahue, a spokesman for the United Association, which has recorded its opposition to the bill, said, "This bill is a misnomer. Instead of preventing bid-shopping, it actually legalizes it by allowing the general contractor five working days to change subcontractors after the bids have been opened."

James O. Hendrickson, executive secretary of the NAPC added, "The bill also puts Congress on record as approving the single contract system of awarding Federal construction contracts, in spite of the fact that at least nine states have laws requiring separation of bids. These laws, which are working well and saving taxpayers' money, will be jeopardized if the bill passes."

'Kills Germs'

Texas Firm Offers Ultra-Violet Lamp

ABILENE, Texas — "Germi-trol," an ultra-violet energy germicidal lamp unit claimed to kill airborne germs and viruses and bring outdoor air freshness to the home, is manufactured here by English Engineering Co. for heating, air conditioning, and ventilating ductwork systems.

Of stainless steel construction, rust and moisture proof, the unit is 18 in. over-all plus ballast and starter case of 3 by 3 by 6 in. The firm claims easy installation for the lamp.

WANTED STYROFOAM PIPE COVERING

Sales Representative to Cover Foam Plastic Products for metropolitan New York, New England, West Coast, and several other excellent protected territories. State lines now carried. Excellent commission.

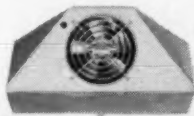
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KRAMER PRODUCTS

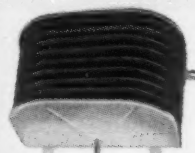
Have earned an unsurpassed reputation for leadership and dependability that makes it easy for wholesalers and contractors to grow and prosper.

Designed and engineered to the highest standards, users of KRAMER products stay sold. Pictured are a few of the many KRAMER products—each a standard of the industry.

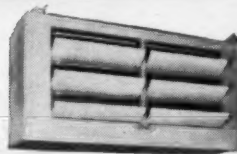
WEDGE UNIT
4 models
1,000 to 6,000
BTU'S Per Hour



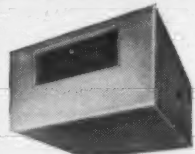
CUB CURVETTE
3 models
800 to 4,000
BTU'S Per Hour



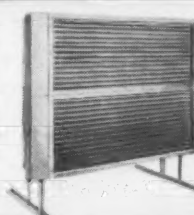
COOLMASTER
14 models
2,500 to 160,000
BTU'S Per Hour



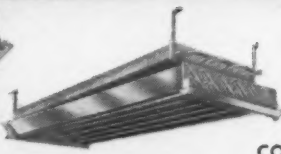
AIR CONDITIONING
UNIT
3 to 10 Ton



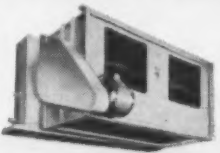
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Tonnage; any size compressor can use this remote air-cooled condenser. Minimum head pressure maintained by patented Winterstat.



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THERMOBANK automatic re-evaporator hot gas defrost systems. There is a THERMOBANK for every application from 36° to minus 75°.



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7 models
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44 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

Tecumseh Merges 2 Engine Divisions

TECUMSEH, Mich. — First general field announcement of the merging and integration of Power Products Corp. with Tecumseh's Lauson Engine Div. was made recently by Tecumseh Products Co.

Tecumseh purchased all the outstanding stock of Power Products on June 1 and is operating it as a wholly owned subsidiary.

With Power Products producing 2-cycle gasoline engines and the Lauson Div. producing 4-cycle gasoline engines, Tecumseh offers industry a single source for all types of small engines, Richard C. Roll, vice president of Tecumseh, declared.

He pointed out that the Lauson-Power Products service organization will consist of 7,100 outlets for both types of engines, making it the largest in the field.

F. O. Beckman has been named director of service. His department will handle all service and after-market sales.

Gerald Z. Laetsch will serve as general sales manager for both Lauson and Power Products engines. He is assisted by James S. Sullivan.

Power Products operates a new million dollar, 100,000-sq. ft. plant in Grafton, Wis., while Lauson operates a recently enlarged plant in New Holstein, Wis.

For 'Isotron'

Pennsalt Names American Potash U. S. Distributor

PHILADELPHIA — Pennsalt Chemicals Corp. has named American Potash & Chemical Corp. a national distributor for its "Isotron" refrigerant chemicals.

According to a joint announcement by George A. Schnier, manager of AP&CC's Refrigerant Chemicals Div., and Frank A. Lucard, manager of Pennsalt Isotron Sales, the agreement becomes effective on Jan. 1, 1958, and will cover the complete Pennsalt refrigerant line including Isotron 11, 12, 22, 113, and 114.

"American Potash & Chemical Corp., with 20 years' service to the refrigeration wholesaler trade, will continue the manufacture and distribution of sulfur dioxide and methyl chloride to provide a complete line of chemicals for all types of commercial, home, and automotive refrigeration units," the announcement said.

AP&CC's packaging and distribution system will be continued both domestically and abroad under the present setup. The company's refrigerant packages range from 1 lb. to 2,000 lbs.

An important factor in the packaging system is AP&CC's 1 and 2-lb. "Charg-a-Can" disposable containers, it was also noted.

NEMA Reports 240,500 Norge Names Hurt Aug. Refrigerator Sales Merchandising Mgr.

NEW YORK CITY—Domestic refrigeration equipment manufacturers sold an estimated 240,500 refrigerators and 86,000 home and farm freezers during August, the National Electrical Manufacturers Association reported recently.

This represented a drop of 22% in refrigerator sales and 8% in freezer sales from August, 1956.

For the first eight months of the year, 2,362,300 refrigerators and 666,300 freezers were sold. This was 14% fewer refrigerators and 7% fewer freezers than in the same period last year, it was noted.

These figures, NEMA explained, are based upon expansion of data reported to NEMA's statistical department to cover total industry sales, including exports.

CHICAGO — Appointment of Gordon G. Hurt as national merchandising manager for



G. G. Hurt

Norge Div., Borg-Warner Corp., was announced by Harold P. Bull, vice president of distribution.

Hurt is responsible for merchandising activity in a total Norge home appliance advertising and promotional effort rated at nearly \$10,000,000 annually. He directs all phases of distributor and dealer promotional campaigns, and coordination and liaison of Norge merchandising with the sales, manufacturing, and advertising functions, the manufacturer further stated.

Engine Drive Air Conditioners

Ready-Power To Hold Two-Day Sales Engineering School In Detroit Nov. 5

DETROIT — A two-day sales engineering school on installation and application of engine drive air conditioning equipment will be conducted by the Ready-Power Co. on Nov. 5 and 6 in the Detroit-Leland hotel here.

The company said the school is open to those who work with consulting engineers and contractors in the selection, application, and installation of Ready-Power natural gas air conditioning systems.

Classes will begin at 8:30 a.m. and run to 5 p.m. Advance registrations can be made with the company. Out-of-town visitors can be housed by reservation at the hotel.

The course will cover basic

heat transfer processes, refrigerant piping, cooling coil arrangement and control, selection procedures, natural gas engine requirements, cooling tower water piping, electrical wiring recommendations, and brief form operating cost analysis.

The company said that other subjects would be covered if time permits. A general discussion period will be conducted each day to cover individual inquiries.

Firm Opens Doors

ST. PETERSBURG, Fla. — Richardson's Electrical Service, specializing as a contractor in air conditioning and ventilating equipment, has opened at 445 16th St., N.



STEEL TUBING TIPS:

GM Steel Tubing Engineers offer cost-saving fabrication advice at the design stage!

Leading designers of refrigeration equipment have found that GM Steel Tubing Engineers can offer them many cost-saving tips in the planning stage.

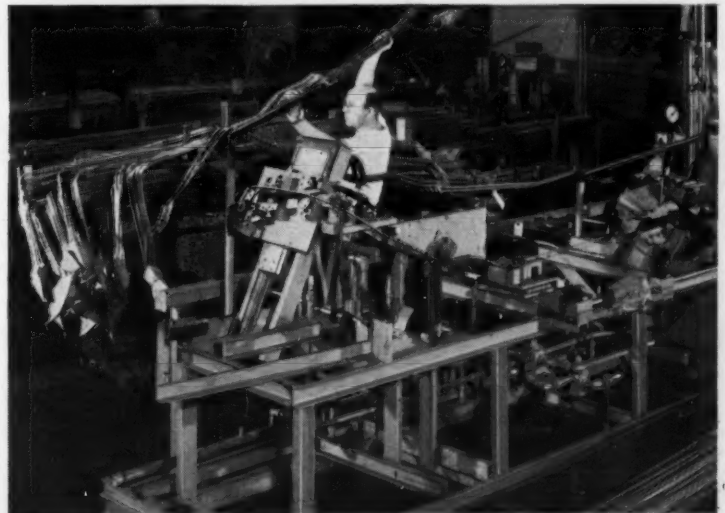
Industry standards are sometimes sufficient when designing a simple tubing application. But a review by the tubing engineer can often suggest changes which will effect greater economies in volume production.

For example, it is usually more economical to incorporate tubing of minimum thickness and diameter. However, the tubing engineer, with his knowledge of tubing manufacture, can tell you when a greater wall thickness or diameter will achieve greater economies.

And the tubing engineer's knowledge of refrigeration applications can help you make further savings. Based on long experience, he can recommend the best and most economical means of satisfying stipulated specifications on existing high-production manufacturing equipment. His knowledge of industry developments can help you make savings in tubular refrigeration components and retain maximum efficiency.

The design of formed steel tubing connecting lines is another area where the tubing engineer can be of great help to the designer. Again, standards and rules may prove inadequate if you are to be absolutely sure of the most economical part to do the job. The tubing engineer can tell you how to get the greatest number of bends for the least cost, how tubing will react when formed by various methods to give you the most efficient design.

When designing any product requiring tubing, consult your GM Steel Tubing Sales Engineer in the planning stage. Or, for general information, write direct to: Tubing Sales Manager, Rochester Products Division of General Motors, Rochester, New York.



Hydraulic forming fixtures like these at Rochester Products can be adapted to handle your requirements at minimum tooling costs. GM Steel Tubing Engineers offer you an unequalled choice of fast, cost-cutting forming equipment such as exclusive "serpentine benders" developed by Rochester Products, and other equipment to provide any type of end sizing such as beading, flattening, piercing or upsetting.



GM Steel Tubing gives you the design flexibility of lengths up to 2000 feet. Eliminate costly joints and elbows, effect additional savings by cutting end waste.

GM STEEL TUBING by



ROCHESTER PRODUCTS

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich. Only 25¢ each.

Symposiums, 'Outstanding' Papers To Highlight ASHAE Technical Sessions at Pittsburgh Meeting Jan. 27-29

NEW YORK CITY—Symposiums, a topical session, and outstanding papers of timely interest form the substance of the technical sessions planned for the 64th annual meeting of the American Society of Heating & Air-Conditioning Engineers, Jan. 27-29 in Pittsburgh at the Penn-Sheraton hotel.

In addition, the Council and various committees will meet between Jan. 25 and 29 with the organization meeting of the 1958 Council on Thursday.

The traditional introduction and installation of the 1958 officers and the presentation of the Past President's Award are among the highlights of the annual banquet which will take place on Wednesday evening,

Jan. 29. There also will be many other special events, according to Pittsburgh Chapter President E. H. Reismeyer, Jr.

Details and plans are now being developed by the Pittsburgh Chapter Committee on Arrangements under the general chairmanship of T. F. Rockwell. Assisting Rockwell are Vice Chairman D. W. Loucks and Honorary Chairman R. B. Stanger.

The Program and Papers Committee, John Everetts, Jr., Philadelphia, chairman, is planning on seven sessions and two symposiums. One session of four papers is expected to be organized as a topical session on the utilization of solar energy.

Tentatively two simultaneous technical sessions are to take

place on Tuesday and Wednesday mornings with the last two sessions running concurrently on Wednesday afternoon. The opening of the 64th annual meeting on Monday morning by ASHAE President P. B. Gordon of New York City will be the only session on that day.

SOME SUBJECTS

Some of the subjects which may be covered by papers presented at these sessions are: (1) a survey to learn how much airborne dust is in the air in various cities and what the nature of the dust is, (2) the effect of cold ceilings on the feeling of comfort, (3) study of comfort with heated floors, (4) characteristics of multi-louvered dampers, (5) develop-

ment of a sensitive anemometer for measuring air movement at very low speeds, (6) determination of chimney draft, (7) heat transfer of gravity flow cooling coils, (8) report on electric analogue as a means of predicting heating load.

HIGH TEMP HOT WATER SYMPOSIUM

A symposium on high temperature hot water is being arranged by P. N. Vinther, Dallas, member of the Council. It will cover the categories of economic evaluation, marine application, military installation design, civilian airport installations, and British and European methods.

W. G. Hole, Montreal, Que., member of the council, is organizing a symposium on school heating and air conditioning which will include an educator's viewpoint; design practice, economics; state board problems; and an architect's predictions.

Copeland Appoints 3 Sales Representatives

SIDNEY, Ohio—Copeland Refrigeration Corp. has announced the appointments of John Young as district sales representative for Kansas, Missouri, and for southern Illinois; Donald R.



D. R. Macklem



John Young



Louis Wallace

Macklem as district sales representative covering Nebraska, Iowa, northern Illinois, and southern Wisconsin; and Louis Wallace as field representative for Texas and Oklahoma.

Young has worked on development and promotion of heat pump systems for Union Electric Co. of Missouri; as sales engineer for Acro Mfg. Co.; and sales manager for Lingle Refrigerator Co.

Macklem has been active in the commercial refrigeration and air conditioning field for the past 26 years, during most of which he was employed by Frigidaire Div. of General Motors Corp.

In 1954 Macklem joined American Mfg. Co. as assistant manager in charge of engineering and manufacturing. In 1955 he became associated with Laurel Products, Inc. as chief engineer.

Wallace, who has had many years' experience in refrigeration, was formerly associated with Ansul Chemical Co.; Russell Sales Co., Whittier, Calif.; F. H. Langsenkamp, Indianapolis; and J. M. Oberc, Inc., Detroit.

Pittsburgh Group To Provide Speakers For Service Clubs

PITTSBURGH—Directors of the local Heating & Air Conditioning Contractors Association voted to form a speakers committee and offer to supply speakers free of charge to the various service organizations, such as Rotary, Kiwanis, and Lions, John L. McManus, treasurer, reported.

Subject of these talks will be quality heating and air conditioning.

"We feel that the only answer to the problem is to . . . educate the people in our community and endeavor to have them realize that when they make a decision to purchase products of our industry that integrity, know-how, service, and the technical approach of a specialized organization are paramount," McManus said.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

So Halstead & Mitchell Engineers Said . . .

**COUNTERFLOW, CLEANABLE
WATER-COOLED CONDENSERS
MAKE "CHAIN-REACTION" SALES**

A CHAIN REACTION—one sale leads to another when users experience the twin advantages of H&M's Water-Cooled Condensers—peak efficiency and lowest maintenance.

Double-tube design and counterflow introduction of water and refrigerant assure most efficient heat transfer. Refrigerant flows through the outer tube and the water through the inner tube for maximum heat interchange.

Removable headers permit easy water tube cleaning with a simple, accessory cleaning tool. Scale and sludge

which reduce heat transfer are removed without harmful chemical cleaners. Condenser capacity is maintained at clean-tube performance ratings for unit lifetime.

Condenser compactness makes these units ideal for conversion of under-capacity air-cooled refrigeration systems. All H&M units are U/L approved for use with refrigerants -12 or -22.

Call your wholesaler or write Halstead & Mitchell, Bessemer Building, Pittsburgh 22, Pa.

ONLY HALSTEAD & MITCHELL OFFERS THIS WIDE CHOICE

HEAVY DUTY (Type T) condensers have a highly favorable fouling factor and are designed for long service between cleanings. $\frac{1}{8}$ through 25 tons.

STANDARD DUTY (Type EL) are made with extended surface water tubes, ideal for water-cooled systems under all average conditions. $\frac{1}{8}$ through 3 tons.

REPLACEMENT CONDENSERS (Type R) are shorter, higher condensers designed for use in package air conditioners. Easily installed. $1\frac{1}{2}$ through 10 tons.

SEA WATER CONDENSERS (Type SW) are made with cupro-nickel water tubes and naval brass headers for resistance to impure water. $\frac{1}{8}$ through 25 tons.



For more information about products advertised on this page use Information Center, page 14.

Hamburger Restaurant Chain

Believes More Tasty Hamburgers, Smiling Employees Result from Conditioned Outlets

DAYTON—Air-cooled air conditioning has become one more of the many inviting features of turreted White Castle hamburger restaurants, it was reported recently by Airtemp Div., Chrysler Corp.

The chain of 83 restaurants—which in a single year sold 5,000,000 lbs. of hamburger and used 700,000 lbs. of coffee—extends from St. Louis to New York and from Indianapolis to Louisville.

Experimented with Evaporative Cooling

As early as 1935, White Castle started experimenting with evaporative type of cooling in its Kansas City restaurants.

By the early 1940's, all of the Castles in the system had one or more evaporative coolers located on the roof. They were not entirely satisfactory but did help in most cases. Investigation revealed that it was difficult to install the compressor type of refrigeration unit on existing buildings, but it could be done on new structures.

During the war years, it was impossible to construct new buildings, so it was 1948 before White Castle began to add new structures to its system. In 1948 and 1949, four new buildings were constructed, one each in Detroit, Indianapolis, St. Louis, and Columbus.

4 Outlets Get Water-Cooled Units

In each of these, White Castle installed a 7½-ton water-cooled air conditioning unit. In 1954, three more existing Castles were air conditioned with water-cooled units and each unit was equipped with a stainless steel water cooling tower.

By this time, public officials in all of the cities in which White Castle operated were talking of water conservation. Everyone was worried about the tremendous increase in water use due to air conditioning. It appeared that White Castle, along with all other industries, had to use water cooling towers or be faced with high penalties.

In 1954, White Castle installed water cooling towers on the original four Castles having water-cooled units and also on air con-

ditioning units located in the offices of four of the principal cities. These towers caused some maintenance problems and White Castle continued to look for a system that would be relatively maintenance free and could be installed on existing Castles with a minimum of expense to the company and discomfort to customers, Airtemp noted.

In the spring of 1955, a Chrysler

Airtemp air-cooled unit was installed on a Castle in Indianapolis as an experiment. The experimental unit proved satisfactory. Plans were rushed and all Castles were air conditioned in St. Louis, Indianapolis, Louisville, and Columbus during the summer and fall of 1955.

In the fall of 1955, the White Castle management requested its engineering department to push this type of air condition-

ing as rapidly as possible to get it installed on every Castle.

Individual plans were necessary on each Castle, creating considerable work for the engineers. However, White Castle has announced the entire project is completed and that the more than 80 restaurants across the country provide air conditioned comfort.

One White Castle official commented: "We believe that the air conditioning of our units has definitely aided the morale of our employees. From the very beginning, we went into the program with the idea that we were doing it as much, if not more, for our employees than we were for customer benefit. We know that our employees do appreciate

this, and that in turn they are better able to serve the customer with a smile. There is no way to place a dollar value on a happy and satisfied employee, but nevertheless we know there is a great deal of value to any company if it can have this type.

'Cooling Cuts Labor Turnover'

"We believe that air conditioning has, therefore, in an indirect manner aided in our sales. It has probably cut our labor turnover, although no definite figures are available to substantiate this. We are fairly certain that, if we were to suddenly discontinue all air conditioning, that we would have some employees leave."



4 NEW GENERAL ELECTRIC CAPACITORS

save space, eliminate extra mounting brackets, and cut costly connections in central air conditioners

Now General Electric offers four new rectangular capacitors designed especially for central air conditioners ranging in size from 1¼ to 5 tons. These higher rated capacitors mean that for many applications it is now possible to use a single unit instead of two or three lower-rated ones. Not only does this allow a considerable space saving, but it also reduces the number of mounting brackets and connections.

Higher capacitor ratings have been achieved with a minimum increase in case height and no increase in base dimensions. The table below gives you typical microfarad ratings for the new rectangular units.

Case Dimension	Typical Ratings
LARGE BASE RECTANGULARS	
4 7/8 x 2 3/4 x 6 3/4	40 uf 370v — 35 uf 440v
4 7/8 x 2 3/4 x 8	45 uf 370v — 40 uf 440v
SMALL BASE RECTANGULARS	
2 1/4 x 2 1/4 x 6 3/4	35 uf 236v
2 1/4 x 2 1/4 x 8	35 uf 370v — 25 uf 440v

The new rectangular cases, as well as G.E.'s full line of capacitors for air conditioners, feature a new anti-corrosion finish: durable Granite Gray case paint and electro tin-plated brass covers. This combination gives the capacitors more than four times the corrosion resistance of the previously used finish. It is listed by Underwriters' Laboratories, Inc. for all outdoor condensing and central air conditioning applications.

For more information about General Electric capacitors for air conditioners contact your nearest G.E. Apparatus Sales Office, or write for bulletin GEA-5895 "Capacitors for Air Conditioning Equipments," General Electric, Section 448-3, Schenectady, N. Y.

Progress Is Our Most Important Product

GENERAL ELECTRIC

STYROFOAM * Pipe Covering by Glo-Brite



For Low Temperature Lines & Original Equipment Manufacturers.

Pipe diameters from 3/8" iron pipe and copper tubing, to all large diameters and wall thicknesses, elbows and joints.

Light, standard and heavy duty for chiller unit cold storage work and heavy industrial installations.

GLO-BRITE PRODUCTS, INC.
6415 N. California Ave.
Chicago 45, Ill.

*Dow expanded polystyrene.

Whirlpool Offers '58 Air Conditioners--

(Concluded from Page 1)

are finished in desert sand with a vertically louvered grille. Accents are charcoal gray.

A hinged picture panel adjacent to the grille conceals controls. To carry out various room decors, this panel is available in seven different colors and motifs. Similar to popular shoji screens, translucent plastic panels are inlaid with actual sheaves of wheat, butterflies, or various other delicate designs. A fluorescent tube which illuminates the decorative panel and the controls, also serves as a night light.

Combination Control Dials

Operational features in top-of-the-line models include new combination control dials for separate regulation of ventilation, exhaust, humidity, temperature, and fan speeds. A

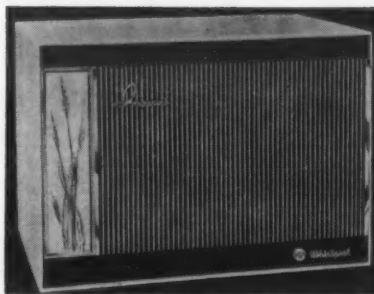
weather-sealed cabinet is claimed to keep out drafts even in a high wind.

Suited for year-round use in warm climates and between-season use in all climates, a 1-hp. reverse-cycle air conditioner automatically switches from cooling to warming when the outside temperature drops on chilly days, the company said. Another 1-hp. unit is styled with picture frame molding for through-the-wall installation.

Previewed with the new line is a portable "Metropolitan" model "which can be installed in 30 seconds without the use of tools," according to the company.

The cabinets of the 1958 line of RCA Whirlpool air conditioners were designed by Sundberg-Ferar.

Imperial, "Custom," and "Deluxe" models are designed for



THIS 1958 RCA WHIRLPOOL "Imperial" room air conditioner is less than 18 in. high, finished in desert sand with a vertically louvered grille and charcoal gray accents.

installation in any window 27 to 40 in. wide. Special kits are available for installation in windows 41 to 54 in. in width.

Featuring the hinged picture panel and three individually-adjustable air directors, Imperial models include the following seven units:

1-hp. unit, 115-volt, 12-ampere operation; 1-hp. unit, 230-volt operation; 1-hp. unit, 208-

volt operation; 1½-hp. unit, 230-volt operation; 2-hp. unit, 230-volt operation; 1-hp. unit with reverse cycle heating, 230-volt; 1-hp. unit with extra heavy steel cabinet and picture frame molding for through-the-wall installation, 230-volt operation.

All Imperial models are 25⅞ in. wide and 17⅝ in. high. The 1-hp. units are 19⅞ in. deep; the 1½ and 2-hp. models are 22⅞ in. deep.

Custom Units Are 16¼-In. High

Compact "Custom" model air conditioners are 16¼ in. high.

"New air volume control provides regulation of fan speed from high for extra hot weather to low for quiet night operation, or any in-between setting," it was noted. "Pushbuttons control exhaust, cooling or vent action, and shut-off. Thermostat and vent position are adjusted by

rotary controls. Room air may be recirculated even when the vent is closed.

"Custom models are equipped with disposable glass fiber filters. A large, adjustable air director may be turned toward any part of a room for draft-free ventilation."

Custom models include the following four units: 1-hp. unit, 115-volt, 7.5-ampere operation; 1-hp. unit, 230-volt operation; 1½-hp. unit, 115-volt, 12-ampere operation; 2-hp. unit, 230-volt operation.

All of these models are 27 in. wide and 16¼ in. high. The 1-hp. units are 18⅝ in. deep; the others are 21⅝ in. deep.

Four individually adjustable air director grilles, plus simple pushbutton and rotary controls for cooling, dehumidifying, ventilation, and exhaust are among the features found in Deluxe model room air conditioners, the company said. Fan speed is adjustable to high or low. Room air may be recirculated even with dampers closed. Low cabinets are finished in light green with dark green and gold-color trim.

Deluxe models include the following three units: 1-hp. unit, 115-volt, 12-ampere operation; 1-hp. unit, 230-volt operation; 1½-hp. unit, 230-volt operation. All Deluxe models are 25⅞ in. wide and 17⅝ in. high. The 1-hp. units are 17⅝ in. deep; the 1½-hp. unit is 20¾ in. deep.

An Imperial model electric dehumidifier, mounted on large swivel casters, automatically removes up to 3¼ gals. of moisture from the air in a 24-hour period, according to the company. Finished in desert sand and charcoal, the 1958 dehumidifier has a new vertically designed grille similar to 1958 RCA Whirlpool Imperial model room air conditioners.

Controls Humidity In Large Space

The dehumidifier will provide adequate humidity control in rooms as large as 40 ft. by 30 ft. by 10 ft., it was stated. Moisture removed from the air is collected in a 7-qt.-capacity water container, mounted securely on rails to eliminate accidental spilling. The container may be easily removed for emptying, or water may be disposed of automatically over a floor drain or by a connection with a standard garden hose.

A spring-mounted compressor is said to assure quiet, vibration-free operation. The 8-ft. power cord may be plugged into any existing adequately wired 115-volt outlet. All moving parts are permanently lubricated. Dimensions of the dehumidifier are 12 in. wide by 17⅞ in. high by 20½ in. long.

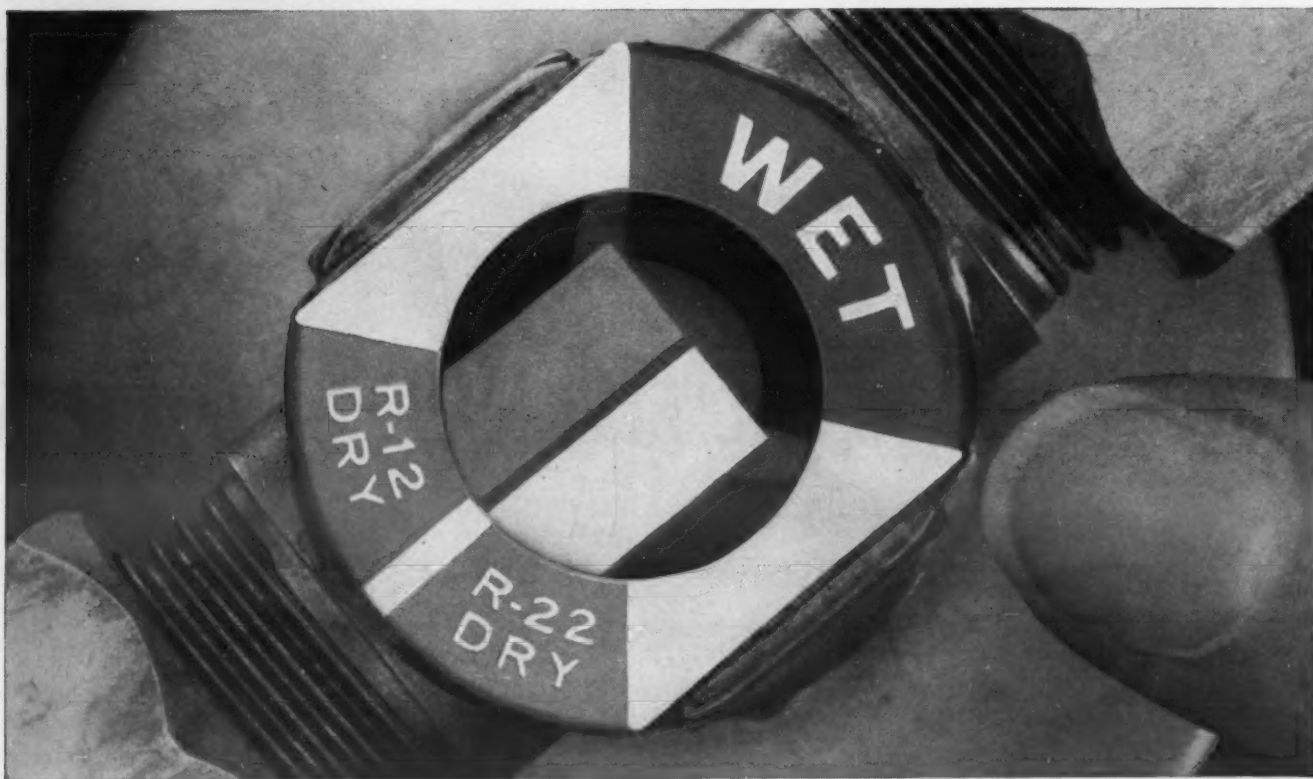
Central air conditioners include the following four models:

Two-horsepower self-contained unit with cooling and condensing functions combined in one cabinet. Unit may be installed in attic, breezeway, carport, or through window, transom, or wall.

Two, 3 and 5-hp. remote units have cooling and condensing facilities in separate cabinets. Units may be close-coupled or installed with condenser located within reasonable distance of cooler, indoors or out. Also available are units to install in conjunction with heating plants.

IT'S HERE!

The world's first moisture indicator with a built-in sight glass. The new **ANSUL SUPER DRY-EYE** tells you at a glance if the refrigerant is dry or dangerously wet, and lets you see the condition of the refrigerant. Here are the four big servicing questions the super DRY-EYE answers for you scientifically!



Q. If I am using Freon-12 how will I know if it is dangerously wet or dry?

A. Just look through the big window at the R-12 indicating element. If it is blue the refrigerant is safe; less than 10 parts per million of moisture present. If it is pink, moisture has climbed above 30 ppm—time to change driers.

Q. If I use Freon-22 in a system how will I know if it is wet or dry?

A. If the R-22 element is green your refrigerant is in safe operating condition—less than 20 ppm of moisture. If the element shows pink, moisture has reached the 25 ppm level; time to change driers and avert a costly breakdown.

Q. Will the Super Dry-Eye tell me if there is a low refrigerant charge?

A. Yes. The fused glass window, the first proven leak-proof

sight glass in the industry, permits visual inspection of the refrigerant at all times. Bubbles indicate a low refrigerant charge or a possible restriction in the line.

Q. Is there a simple, economical way of correcting the problems which the Super Dry-Eye tells me about?

A. The T-fitting which houses the Super Dry-Eye can also serve as a connection for an Ansul T-Flo drier without an additional break in the line. The drier screws in like a light bulb and hand tightening gives a leak-proof seal.

The Ansul Chemical Company, Marinette, Wisconsin



Remodeled Store Has New Refrigeration

MEMPHIS — Liberty Cash Grocery No. 45 at 695 Mississippi has doubled its floor space, remodeled and installed new McCray refrigeration equipment.

The store, owned by Mike and Leo Lazarini and Joe Marino, first opened in 1932 in a small building in the same neighborhood. In 1940 it moved to larger quarters and then lately the store was doubled in size and completely remodeled with new lighting, check-out stands, shelving, floor coverings, and refrigerated equipment.

The McCray equipment, installed by Jennings Equipment Co., Inc., includes 55 ft. of refrigerated produce display, 44 ft. of frozen food and ice cream cases, 33 ft. of dairy products cases, 33 ft. of open meat display, and an 11-ft. triple-deck case for salt and cured meats.

Food Fair Is A 'Packer'

FTC Says It 'Lacks Jurisdiction' on Food Fair Illegal Ad Charges

WASHINGTON, D. C.—The Federal Trade Commission has dismissed for lack of jurisdiction its charges that Food Fair Stores, Inc., Philadelphia, induced illegal advertising allowances from its suppliers and failed to use all these allowances for advertising purposes.

In an opinion by Chairman John W. Gwynne, the commission ruled that, despite the fact Food Fair's packing activities account for only 5% of its total retail sales, the company is a "packer" under the Packers and Stockyards Act. Therefore, the commission said, the activities in question come under the exclusive jurisdiction of the Secretary of Agriculture.

In ruling that Food Fair comes within the definition of "packer" as Congress intended that term, Chairman Gwynne said:

"It seems clear from the language of the Act and from the legislative history that Congress designedly made the definition of packer a very broad one. The general purpose was to regulate certain prac-

tices of the meat packing business in all its ramifications regardless of its organization or unrelated activities. About the only persons Congress seemed to exempt were those having no packer affiliations. . . ."

The commission denied an appeal by counsel supporting the complaint from Hearing Examiner Frank Hier's earlier initial decision and affirmed the examiner's order of dismissal.

The staff attorneys had argued in their appeal that under the law the Secretary has jurisdiction only over the meat products marketed by Food Fair while the Commission has jurisdiction over all other operations involved in this proceeding, it was pointed out.

Commercial Refrigeration

Ice Slowly Lowers Refrigeration Grid To Form Outdoor Ice Rink

DENVER—Problem of lowering one edge of a gigantic net-gridwork of steel pipe gently and evenly to the flat bed of a new outdoor ice skating rink here was solved to everyone's satisfaction by Dean Dungan, erecting engineer for York Corp.

He propped the edge up on 10 big blocks of ice and let the problem slowly melt away.

Heart of the huge refrigeration system is the 5½ miles of steel pipe welded together to form an enormous freezing coil griddle 110 ft. long and 65 ft. wide. Of the 442 runs of 1-in. pipe, each is 64 ft. long. These all feed into a big 8-in. header, more than 100 ft. long, which weighs 5,500 lbs. and holds 2,000 lbs. of water for hydraulic

pressure testing.

The big pipe was blocked up 2 ft. off the rink bed so all the little pipes could be welded into the header. Welders crawled underneath the grid, completed their welds and tested them under 150 lbs. pressure.

However ordinary screw jacks couldn't then be used to lower the large unit back into its final resting place. Any jerk or sudden strain might crack the welds.

"But ice works slowly and uniformly," says Dungan.

The coils will be covered by 2¼ in. of concrete to form a smooth floor.

The rink will give Denver a year-round area similar to that in Rockefeller Center, New York City.

**They'll want to finance it,
so call in COMMERCIAL CREDIT**



MAKE YOUR PROPOSALS COMPLETE . . . most of your prospects need their cash and usual lines of credit for current operations . . . make it easier for the prospect to sign on the dotted line by including financing arrangements. **COMMERCIAL CREDIT'S** Refrigeration Plan is backed by many years' experience, handling financing for thousands of commercial refrigeration and air conditioning installations. Let us show you how **COMMERCIAL CREDIT'S** method functions smoothly . . . saves you time and trouble. Over 300 offices assure fast service. Call our office in your city or write **COMMERCIAL CREDIT CORPORATION**, Commercial Credit Building, Baltimore 2, Maryland.

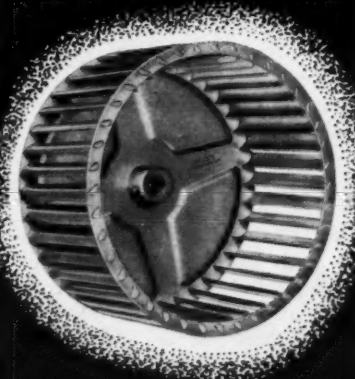


A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over \$200,000,000 . . . offices in principal cities of the United States and Canada.

The O. A. Sutton Corporation, Inc.

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**REVCOR
BLASTAIRE
BLOWER WHEELS**



in their

**Vornado
PRODUCTS**

because . . .

- Air Movement is so important in Air Conditioning!
- Revcor Wheels Provide More Volume!
- Stronger Revcor construction stands up better under shipping and handling conditions after Revcor Wheels are installed in Vornado appliances!

REVCOR SINGLE AND DOUBLE INLET BLASTAIRE BLOWER WHEELS ARE USED BY OVER 60% OF THE ROOM AIR CONDITIONER MANUFACTURERS!

Write For Technical Details

Revcor INC.
ENGINEERS • MANUFACTURERS
251 EDWARDS STREET
CARPENTERSVILLE, ILLINOIS

Seeks To Clarify FTC Jurisdiction

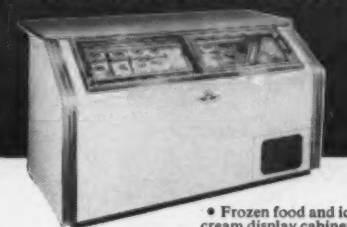
WASHINGTON, D. C.—To stem what he said "threatens to become a major breakthrough in anti-trust enforcement," Rep. Emmanuel Celler asked for early Congressional action next year on legislation clarifying Federal Trade Commission jurisdiction.

Commenting on the FTC dismissal of unfair trade practice charges against Food Fair Stores, Inc., the House Judiciary committee chairman said Congress cannot continue to tolerate a statutory situation which has removed and is removing even larger segments of anti-trust enforcement responsibility from FTC.

His bills (HR 5282 and HR 7319) would restore to FTC the supervision now held by the Agriculture Dept. over unfair trade practices of meat packers and others in the food industry.

Sen. Joseph O'Mahoney stated he will press for action on his bill (S 1356), similar to Celler's, soon after Congress convenes in January.

**THINK OF ACE
WHEN YOU THINK OF
REFRIGERATION CABINETS**



- Frozen food and ice cream display cabinets with automatic defrosting
- Milk and dairy display cases
- Ice cream storage cabinets
- Self-service frozen food display cabinets
- Wall type display cases
- Heavy-duty commercial upright freezers

ACE CABINET CORPORATION
358 Belleville Avenue, New Bedford, Mass.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

"I sell them to my neighbors for two bucks apiece," came the answer.

"Are you crazy? You pay us \$2.37 per each."

"Right you are. It may seem silly to you, but it beats farming."

"Dope" boyhooded in a then-depressed farming area (southern Illinois). The above story was valid then and there—1916 through 1930. But no longer.

During the "war years" (World War II and the Korean misadventure) most good farmers enriched themselves. Example: the writer attended a 25th Class Reunion at the University of Illinois not so long ago.

Nearly all the reunioneers who parked new Cadillacs near the Urbana-Lincoln hotel were farmers. And their wives were swathed in mink and ermine for the occasion.

Protected prices for farmers have been guaranteed by the U. S. Government for nearly three decades. At the same time a revolution in farming methods has enabled smart farmers to up their production fantastically.

Hence, it would seem, scientific BIG FARMERS have been getting rich at the expense of taxpayers and consumers.

As most of us too-well know, the U. S. Government is spending billions of our tax dollars to buy up farm surpluses and store them *while they rot*. Millions more dollars are being spent to take land out of production, and to give away embarrassing farm surpluses to foreigners who don't always need them.

Simultaneously a third Gov-

ernment agency is spending billions of our income-tax dollars for dams to reclaim land which will add more surpluses of wheat and cotton and peanuts nobody wants or will buy.

You and I are paying farmers for not farming. We also are paying them much more than farmstuffs are worth—and giving away the difference. At the same time the U. S. Bureau of Reclamation is adding more than 150,000 acres to America's farmlands every year.

More than a million more acres will have been "reclaimed" (thanks to tax supported dams and irrigation) by 1960 by these bureaucrats.

Obviously these additions to the nation's farm capacity—which already is vastly in excess of demand—will make OUR (taxpayers and consumers) grocery bills higher, and the costs of buying up and tossing away subsequent surpluses scandalous.

Nowadays the technological revolution occurring in agricultural science is producing an astonishing rise in crop yields per acre. The more the U. S. Government tries to restrict acreage, the more farm output increases.

It's a race nobody wins—except the millionaire farm corporations. And there are plenty of the latter.

What's the solution?

Controversial Bravura

Inasmuch as the Farm Problem already is a national political football, "Dope" suggests that:

"Slum clearance" of uneconomic small farms, plus resettlement of inefficient small farmers into city jobs, might advance the Mechanized Agricultural Era.

It could be a deal similar to government-subsidized city slum

clearance—pay much more for the land than it's worth; then sell to BIG operators for what the latter choose to pay for additional acreage.

That would take care of inefficient marginal farmers, with justice to everything but their nostalgia.

THEN, maybe, we could get rid of price supports, storage charges, foreign dumping, and all the uneconomic enormous subsidies to Big Farmers.

Thereafter this policy would cut food prices to consumers, and save extravagant waste of tax money for farm subsidies.

You Can't Beat Cooperation

Havana is a romantic, subtropical city with plenty of Latin American charm. When it comes to selling freezers and air conditioners, however, the same Good Old Methods are as useful in Cuba as they are in the more prosaicalities of Chattanooga, or Omaha, or Fort Wayne, Indiana.

That's what an export manager in our industry discovered. He wondered why dealers in Cuba were not selling their share of home laundry appliances. They were doing a GREAT job on refrigerators and television sets. Easily they outsold their Puerto Rican and Venezuelan neighbors on refrigerators and TV, but couldn't touch them on washers.

So this fellow went down to Havana to find out why. The answer wasn't hard to learn. While all the Cuban dealers were (somewhat lackadaisically) trying to sell their own brand, nobody had taken the trouble to convince Senora Gonzales that she needed a clothes washer in the first place.

Our friend talked the matter over with his Cuban distributor. He suggested that the latter try to get all other Cuban distributors to join in a cooperative advertising campaign. So the man took the idea to his 14 competitors. Believe it or not, he succeeded in interesting eight of them in joining the program.

The nine distributors kicked \$6,000 into the kitty, contributing on the basis of the number of washers they imported during a specified period. The cooperative ads stressed the health angle of the clothes washer, its easy operation, and its dependability.

Their advertisements were published in three widely circulated Havana newspapers and a monthly magazine. The campaign ran for three months.

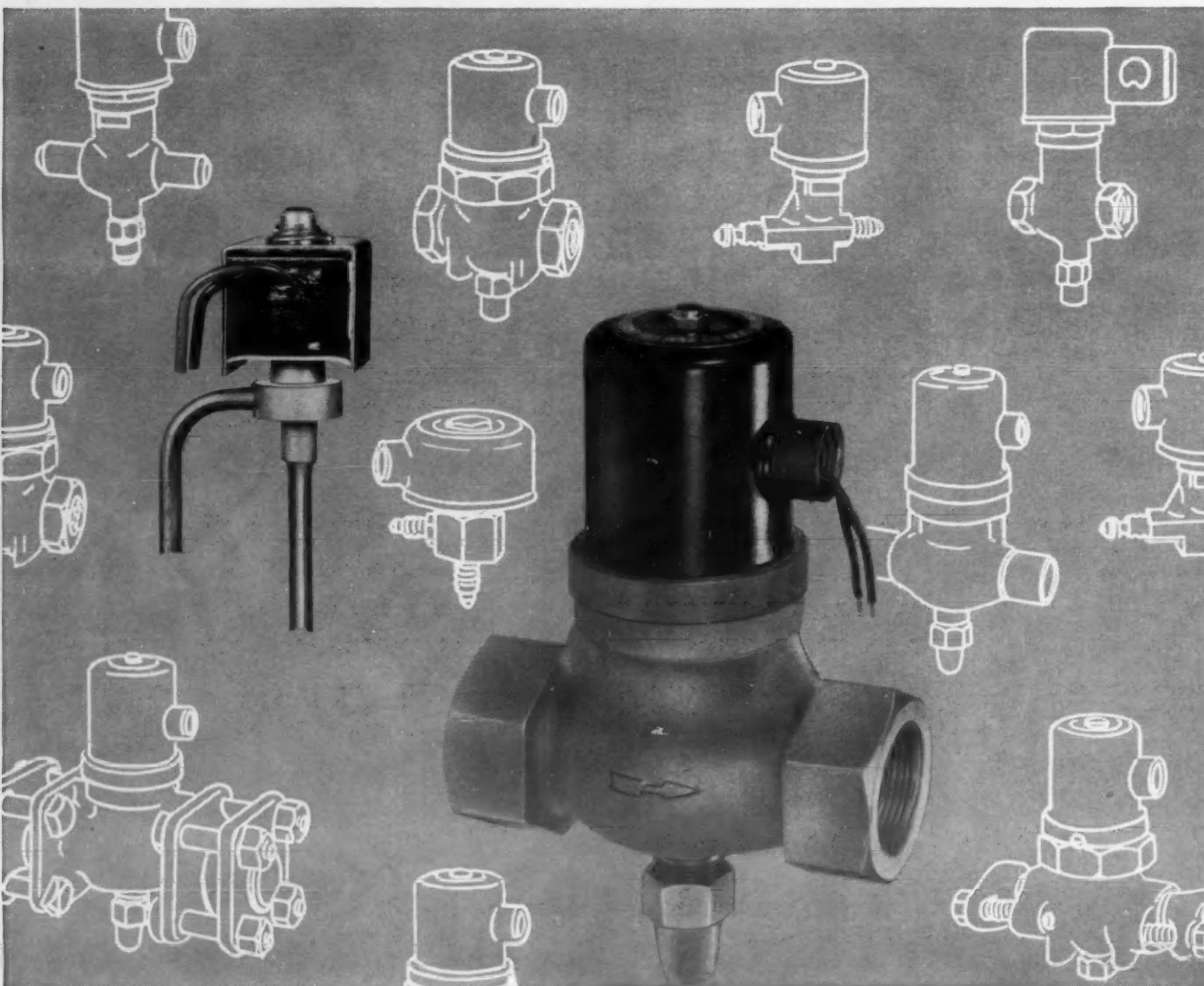
Individual distributors were encouraged to do more advertising on their own. But they agreed that no two dealers would advertise in the same newspaper on the same day. Dealers also were alerted to dust off their washers and stick them in the front window where Senora Gonzales could see them.

And when the year came to an end, importations of American washers had risen 45% over the previous year. Following year it was much easier to get cooperation in this Joint Effort.

The lesson is obvious. Why don't we try a cooperative deal of this sort on residential air conditioning—anywhere and everywhere?

An IDEA must be sold first, you see.

You can rely on DETROIT... the Quality Line of Solenoid Valves for Air Conditioning and Refrigeration



For new installations or replacements DETROIT Solenoid Valves are preferred for liquid line, suction line, water line, hot gas, steam, or oil applications . . . and for these good reasons:

1. Dependable . . . proved by many years of use.
2. Quiet . . . design features eliminate AC hum.

3. Easy to service . . . readily disassembled for cleaning or inspection.

4. Positive shut-off . . . strong "kick off" spring assures positive closing.

5. Waterproof coils . . . plastic imbedded for long trouble-free service.

For complete information see your DETROIT wholesaler today or write for Catalog 200-E.

Quality Protects Your Investment-- AMERICAN-Standard Quality Is Available At No Extra Cost.



5900 Trumbull Avenue
Detroit 8, Mich.

DETROIT CONTROLS

Division of AMERICAN-Standard



Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LTD., Montreal, Toronto, Winnipeg

For more information about products advertised on this page use Information Center, page 14.

Ability To Come Up with Right Answer Pays off In Product Information Quiz

ACCEPTING a key to the 1957 Mercury station wagon he won in a recent national Whirlpool Corp. "Sales-Maker" contest is Rusty Lantz (center), salesman for John A. Brown Co., Oklahoma City appliance dealer. Pictured with him are Jordan Reeves, (left), general sales manager of Du-laney's, Oklahoma City distributor of RCA Whirlpool home appliances, and Joe



Ogden, general manager, air conditioning, Whirlpool Corp.

ST. JOSEPH, Mich.—It paid to know the answers in a product information quiz on "RCA Whirlpool" air conditioners.

Winner of the grand prize in the national "Sales-Maker" contest, Rusty Lantz, salesman for John A. Brown Co., Oklahoma City appliance dealer, was awarded a Mercury station wagon.

Here are some of the questions he was able to answer more effectively than all the other contestants:

"Demonstration is always a good selling technique. Describe two of the demonstrations you can use with your customers as you go about selling RCA Whirlpool air conditioners."

"Describe the advantages of the design features of the 1957 RCA Whirlpool room units."

"Why is two-speed control of air flow important?"

Contestants were also asked to name three of the important features of the "Imperial" model, two features of the "Supreme" model's air direc-

tional control system; and some of the advantages of the electronic filter "which enables you to 'sell up' to the RCA Whirlpool Imperial models."

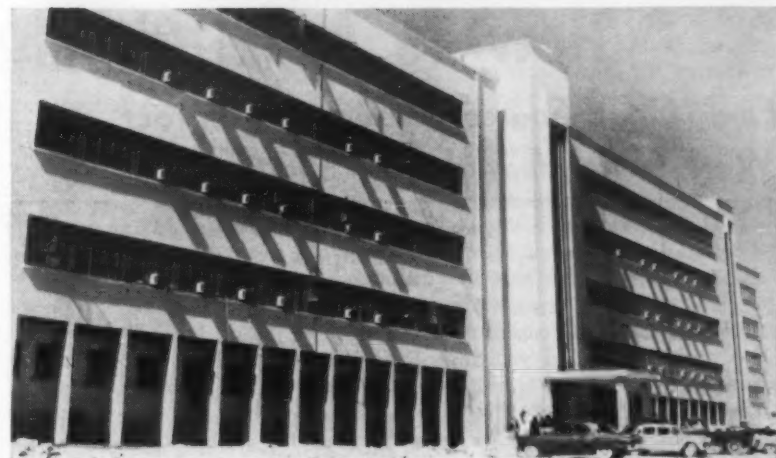
Rusty demonstrated the number-one qualification of a salesman; the ability to come up with the right answer.

4,085 Room Units Sold In R. I. Promotion

PROVIDENCE, R. I.—Forty-seven per cent of the room air conditioners sold in the Rhode Island market this year were 1 hp. or over, according to reports from 11 out of 15 distributors who had a break-down on sales available.

The Electrical League of Rhode Island, which sponsored a cooperative promotion, reported that the 15 participating distributors sold 4,085 units, 90% of which were sold before the end of June. This amounted to 17.8% below the total sold last year.

The utility said that the figures for the two years were not strictly comparable because the 1957 figures are net after dealer returns. Sales figures do not include those of Sears Roebuck.



Room Units Condition Arabian Hospital

THIS Saudi Arabian hospital in Riyadh is air conditioned by 400 Gibson Refrigerator Co. room units. The 1 and 1½-hp. units are placed in through-the-wall, top-of-window, and window-sill installations. According to J. P. Klintworth, manager of Gibson window air conditioner sales, "the variety of placement demonstrates the adaptability of the units and careful planning on the part of the architect."

West Penn Area Room Unit Sales Up In August

GREENSBURG, Pa.—Room air conditioner sales for August showed an increase over sales for August a year ago in the area served by West Penn Power Co.

Sales totaled 261 for August as compared to 118 in August, 1956. The first-eight-month total, too, showed an upward trend with 2,315 sold in 1957 as against 1,623 for the same period in 1956.

Home freezer sales slid from 522 units last August to 459 in August, 1957. The year-so-far total, as of August 31, was about equal, at 3,084 for 1957, and 3,074 for 1956.

Refrigerator-freezer combinations sold in August amounted to 532 and the year's total to the end of August stood at 3,017. No figures were available for 1956.

Domestic refrigerator sales dropped off to 1,464 for August, from 1,829 in 1956. The year-to-date unit sales for the period ended Aug. 31 were 9,377 this year, down from 12,176 in 1956.

Get Your Share of Winter Profits!

on Room Air Cond. Covers

Send for the New 1957 Directory & Alphabetical Guide

Top Quality, Low Prices, Excellent Markup

JIFFY COVERS CORP.
614 Third Ave., N.Y. 16, N.Y.

The perfect
temper
for every
temperature!



CHASE® copper refrigeration tube

You can count on peak efficiency heat-transfer at all temperatures when you use Chase Copper Refrigeration Tube.

Chase tube is uniform in temper... permits ample expansion and contraction with any type refrigerant. No loose connections. No heat-transfer loss.

Chase has established special mill procedures for copper tube used by the

refrigeration and air-conditioning industry. In addition to 100% visual inspection, each coil of Chase Refrigeration tube is pneumatically tested to insure tops in quality.

Only perfect tube—clean, bright, oxide-free and pressure-tight—ever reaches your shop. So for perfect jobs, start by ordering Chase!

The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L. I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

Chase
BRASS & COPPER CO.
WATERBURY 20, CONNECTICUT
SUBSIDIARY OF KENECOTT COPPER CORPORATION

Finds Good Source of Service Contract Work In Residential Air Conditioning

Here Kovacic adds a fourth point. Then Pocasi and he tell of a burgeoning source of new service contract business, tell where to get competent extra help for rush periods, and describe their service report form that keeps a tight control over company operations.

"But with the wrap-around

Many local builders are putting air conditioning into their

COMPACT SERVICE REPORT form in quadruplicate gives Louis Pocsi, president, tight control over a service operation that answers as many as 150 calls a day with 15 to 20 servicemen.

Pocsai pointed out that even

With the volume of work Maple does, Pocsai finds it valu-

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

She checks files to see if unit is in warranty. She notes if job is c.o.d., charge, no charge, and
(Concluded on next page)

about
Santa Clara County

We invite you to question Underwriters' Laboratories or any other Santa Clara County industry. Their enthusiastic answers tell the story.

Accurate statistics are a necessity for wise decisions. Write today for the new folder, "DISTRIBUTION FACTS ABOUT THE WEST".

SAN JOSE
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AIR CONDITIONING AND REFRIGERATION

**TEMPERATURE
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ENGLAND
CABLES : TEMTUR, LONDON

**LARGEST PRODUCER
OF
AIR CONDITIONING UNITS
OUTSIDE THE U.S.A.**

Residential Service Contract Work--

(Continued from preceding page) if serviceman is to pick up contract coupon.

Removing top copy, she turns form over to dispatcher who passes it on to serviceman making the call. The top copy is filed according to its serial number.

"This is our control copy," Pocsai said. "Its only purpose is to see that every call is accounted for. If one is missing, we set about finding out why right away."

The control copy also prevents a serviceman from collecting for a call, tearing up the job ticket, and pocketing the money. "He might lose the rest of the form, but he can't get rid of the control copy," Pocsai explained.

When finished with a job, the serviceman completes the form. He notes work done, materials used, hours on job, and gets customer's signature denoting satisfactory completion of job.

He gives pink copy to customer and returns other two to office. Yellow copy goes in customer file and salmon one to parts man for inventory control.

Files By Address

As many other service organizations do, Maple files according to street address rather than by customer name. Advantage here is that equipment may change hands, but it usually remains at same location.

Filing by street address also reduces errors in spelling customer's name. Misspellings can result in setting up duplicate files, causing confusion.

Tabs on file folder indicate whether or not customer has a service contract. Expiration date of contract is marked on tab.

A separate file is arranged according to serial number of unit. Only information in this file is name and address of owner and warranty expiration date.

This file is valuable for checking correct name and address of customer and for determining if a particular unit is in warranty or not.

"Some times customers owning several units forget which ones are in warranty and which are not. With this file we can tell instantly," Kovacik said.

Aids Direct Mail

The customer files also provide the raw material for direct mail lists. These have proved to be a most profitable source of new business for the firm.

Pocsai pointed out that Maple Service started 12 years ago in the television service business. It moved into air conditioning service four years ago.

The move was made to give the TV servicemen something to do during the summer—their off season. Air conditioner serv-

ice proved to be a natural for them, Pocsai said, "because 95% of the trouble on room air conditioners is electrical."

Hired Qualified Men

The firm also hired qualified refrigeration servicemen to handle work on the refrigeration circuit. When a TV repair man found that the trouble was in the refrigerant circuit, Maple would send out a man to pick up the unit and bring it into the shop for repair by a qualified mechanic.

Maple still continues its authorized Zenith television service. But the shoe is on the other foot now.

Instead of more summer business to keep the TV men busy, Pocsai is looking for more winter business to keep the refrigeration men profitably occupied.

SLANTS ON SERVICE

"Slants on Service" is a "package" devised by the NEWS to meet the needs of busy servicemen and contractors.

Best Way To Check

Electrical Components

To assist servicemen in checking electrical components Copeland suggests the following procedure:

1. Be certain that the power supply coincides with the motor-compressor electrical data.

2. Make sure that the line is hot by use of a test lamp.

3. Measure voltage at the motor terminals with the unit starting or attempting to start. Copeland recommends the use of a good voltmeter such as an Amprobe. Voltage must be within 10% plus or minus of motor-compressor nameplate electrical data.

4. If motor-compressor fails to operate, disconnect electrical

accessories or components. With a test cord check start capacitor and/or check the running capacitor. Exact capacitance may be measured by the formula: MFD equals 2,650 times amps. divided by volts.

5. Check the motor windings for continuity, either with a test line or buzzer. You can definitely check the start and run windings by use of a good grade ohmmeter. Ratio (start to run winding) is approximately 8.7 to 1 for split phase or low start torque for 1/6-1/4 hp.; 7.6 to 1 for 1/3-3/4 hp. low start torque; 2.8 to 1 for 1/6-3/4 hp. high start torque; and, 3.8 to 1 for 1-5 hp. capacitor start, capacitor run. For three phase each phase should be equal.

6. If you find the winding resistance correct, start capacitor correct, running capacitor (where used) correct, and you have selected a new relay and the compressor still will not operate, draws a heavy amperage, or perhaps blows a fuse, remove the motor-compressor assembly, raise the motor end so that the oil will accumulate in the crankcase and remove the rotor stator cover. This will permit examination of the motor windings and also determine if the motor shaft will turn freely.

7. Obviously you should check the oil level in the crankcase, and it is well to remove the valve plate to be sure that there is nothing to obstruct piston movement.

The above will permit you to diagnose definitely and either get the motor-compressor in operation or make arrangements for a replacement in the event that this is actually required.

This adhesive grips while wet...
cuts delay in rubber-to-metal bonding



EVEN WET, EC-1300 GRIPS INSTANTLY! YOU CAN INSTALL RUBBER WEATHER STRIPS AND GASKETS WITH NO DELAY FOR DRYING TIME.

Here's real speed in rubber-to-metal bonding!

It's EC-1300, the 3M adhesive that's ready to go to work the moment you apply it. Immediately EC-1300 holds weather strips and gaskets firmly in place. You short-cut drying-time delays. Production flows in one smooth, fast operation.

And EC-1300 cures fast, too. Quickly, you get a strong, permanent bond. The result—fewer repairs later and,

due to its light color, less clean-up.

In your finished product, EC-1300 bonds tightly with no cold flow under pressure. It resists both heat and oils, safeguards product quality.

Bond foam, sponge, extruded and mechanical rubbers fast! Specify EC-1300. Investigate special sponge-rubber adhesive EC-847, too.

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They'll Do It Every Time

by

Jimmy
Hatlo



Exhibits Don't Get Tired, But People Do

MEMO to exhibitors at the 10th Exposition of the Air Conditioning & Refrigeration Industry in Chicago:

Take time out from planning that magnificent booth of yours to think about your customer—that man who trudges up and down the aisles to see what you and your competitors have to offer.

HE should be your first consideration.

We realize that your booth will be stupendous, colossal, and expensive. It always has been.

Your customers expect the decorations and backgrounds to be colorful, original, and exciting—and they also anticipate that those girls in brief or exciting costumes will be eye-filling.

No doubt your new products on display will be revolutionary—the hottest ever to hit this industry, and the ultimate in consumer desire. They always were and will be, evermore.

But, while customers will note these glandulous boons appreciatively, there is one other thing that will bring a gleam to jaded "prom-trotting" eyes—

A place to sit down and rest our aching feet!

Thousands of others just like us will be parading up and down those unending aisles at the Chicago International Amphitheatre.

We don't know how many miles we'll have to cover. But they will seem much longer than they are, after the second day of walking on those hard, unyielding surfaces.

It's slow work. A few steps. Stop and look. A few more steps. Stop to duck a gathering of long lost friends holding an arm swinging reunion in the middle of the aisle.

Or join them, and try to remember names! Rack your brains while you try lamely to introduce Joe Whatsit to Sam Howsit, whom you met briefly six years ago in Atlantic City.

Another few yards, another stop, and so on until your feet hurt, you're tired, and who cares about the new Widget?

Anyone can tell you that gallumphing through a huge Exhibition is the most tiring way in the world to travel.

After an hour or so of that sort of thing,

an empty chair will look even more enticing than that gorgeous blonde who earns good money to lure you into somebody's emporium.

All you can do is look at her, anyway, and even that isn't stimulating to a man whose muscles ache.

Obviously a big crowd gathered around your products will impress The Boss. It shows "activity."

Nevertheless it is the individual contractor, distributor, wholesaler, and dealer whom you sell.

He is not a crowd. He is a person. A tired, though interested one at best. He will be grateful for a place to sit down. And for a cool drink of water—if you can manage to provide a water cooler in your booth—he will be immensely appreciative.

Relieved of thinking about his tired feet, he might give you grateful attention as you tell him about your new gismo. He might even take some of your literature home with him if you've been kind to him—instead of overpowering.

Here is another situation in which you can do him a favor. Make your souvenir pocket size. If he can tuck it into his coat or inside breast pocket conveniently, he might even forget it is there and take it back to his office—where it may do you and him some good in the future.

One more suggestion:

If your visitor wants to see someone in particular from your company—and that someone is not in the booth at the moment, please make arrangements for a specific future appointment. And see that your man keeps it.

Nothing is more exasperating than to fight your way back to a booth only to find the man you want to see won't return today or has left town already.

It costs money to set up displays so that you can talk to customers during an Exhibition.

Let's treat 'em right, therefore, thereupon, and thereafter—when we have an extraordinary chance to make a good, lasting, and profitable impression upon these folk whose trade you cultivate.

Exhibitions are for PEOPLE—and they're all too human. If they are uncomfortable they won't be in a buying mood.

Air Conditioning & Refrigeration News, October 21, 1957

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AIR CONDITIONING
& REFRIGERATION **NEWS**

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'The Conscience of the Industry'

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VOLUME 82, No. 8, SERIAL No. 1,491, OCTOBER 21, 1957

"A newspaper conducted on the true and natural principles of such a publication ought to be the register of the times, and faithful recorder of every species of intelligence. It ought not to be engrossed by any particular object, but, like a well-covered table, it should contain something suited to every palate."—John Walker.



DEHUMIDIFIERS DON'T COOL—THEY JUST COMFORT

American Motors Corp.
Kelvinator Div.
Detroit, Mich.

Editor:

I read with the usual great interest your editorial on the subject of dehumidifiers. This is a product that I've had great faith in for 10 years, and it makes a man feel good to know that at last, in 1956, it began to show the sales progress which it should have made, in my opinion, at least five years earlier.

In one way, this device might truly be called the "poor man's air conditioner." There may be some other eager beavers who will spot a couple of deviations in your editorial, so I take the liberty of directing them to your attention.

1. Air discharged from a de-

humidifier is never cooler than inlet air. The inlet air passes through the refrigeration coil, then across the condenser, where it is warmed, then across the fan motor and compressor, where more heat is added before it is discharged. By reducing the humidity of the air, the feeling of comfort is promoted.

2. Dehumidifiers operate at suction temperatures from 40° F. to 55° F., and even a 1/8-hp. motor will draw a minimum of 175 watts at those operating temperatures—with the average being about 200 watts.

$200 \times 24 = 4,800 \div 1,000 = 4.8$ kwh. for 24 hours continuous operation.

Regardless, it's still cheap "air conditioning."

T. J. AMMEL,
Contract Sales

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IMPORTANT: Company's Type of Business.....

Calif. Supermarket Features Huge 15-Door Dairy and Beverage Refrigerator Case

LOS ANGELES — California, famed for its fancy supermarkets, has come up with another one—the latest and largest in the Ralphs' chain of Los Angeles.

"Spectacular" commercial refrigeration equipment supplied by Weber Showcase & Fixture Co., Inc. is a feature of this new 35,000-sq. ft. store with its 22,500 sq. ft. of selling area. This equipment was custom designed and enameled to match Ralphs' decor.

One of the largest dairy and refrigerator cases ever designed by Weber is the 15-door cabinet unit in the market. It also accommodates chilled beverages, including a full line of beer and wine.



THIS 15-door dairy and refrigerator case which also accommodates chilled beverages is one of the largest cabinet units ever designed by Weber Showcase & Fixture Co., Inc. It is located in Ralphs newest supermarket in Los Angeles.

Drug Warehouse Has Humidity-Controlled, Conditioned Rooms

JACKSONVILLE, Fla.—Liggett Drug Co.'s new divisional headquarters and warehouse building here features a separate fully humidity-controlled room for tobaccos and an air conditioned room for candies.

A new 75,000-sq. ft. warehouse floor area, and streamlined order-filling methods, permit handling of 15,000 items.

A raised mezzanine along the front of the building contains a 12,000-sq. ft. air conditioned area for general offices including space for meetings, merchandise display, and a special assembly room with luncheon facilities.

The air conditioning system was installed by Thermodyne Corp., mechanical contractor located here.

Robertson Buys Control Of Universal Cooler Co.

BRANTFORD, Ont., Can.—Universal Cooler Co., Ltd.'s president, Daniel Robertson, recently acquired controlling interest in the firm from Masters, Smith & Co. for over \$450,000.

One of Canada's largest makers of frozen food cabinets, refrigerators, and cooling equipment, 98.9% of Universal Cooler's stock was bought by Masters, Smith in 1956 from Maxwell, Ltd., home laundry equipment manufacturer for \$700,000.

Robertson announced his retirement as president. He becomes board chairman while Johnston P. Scott, vice president-general manager, moves up to president-general manager.

H. W. Maxwell and Olga Robertson replaced G. K. Masters and R. M. Syer on the board of the firm.

80-Lin. Ft. of Triple Shelves

Weber's "Colshelf" provides 80 lin. ft. of triple shelves for delicatessen items, while the 86-ft. "Serve Master" displays fresh meat. Meat cutting tables were also supplied by Weber for this 35th outlet in Ralphs' chain.

The mammoth frozen food and ice cream case is Weber's 292-ft. king size "Top View" display chest.

This new store at the intersection of Redondo Beach and Hawthorne Blvds., at 174th—with 100 employees, serves a residential area of southwest suburban Los Angeles comprising seven communities near and along the Pacific coast.

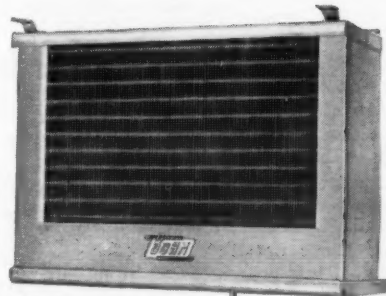
7,500 Customers Served on Saturdays

On a Friday or Saturday, better than 7,500 customers per day pass through the 12 "Zephyr" checkout stands. Parking is provided for 5,000 cars. This store is a "7-day" operation.

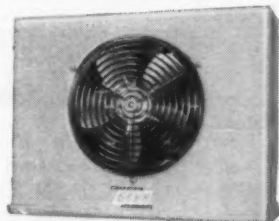
Some 20% more items can be stocked than are usually common to Ralphs' markets. These include hard goods, records, pillows, toiletries and cosmetics, kitchen stools, cane chairs, to list some products not usually characteristic of market operations, it was pointed out.

Provision was also made to shelve a whole section of fancy specialty food items. Ralphs' own creamery products are featured, together with electronically grilled weiners at a large snack bar, one of four in the chain.

BOHN Presents



Model LC Unit Cooler for large walk-ins and low temperature storage. Rating from 600 through 1800 BTU per hr. at 1° T.D.



Model LR Reach-in Cooler for small applications. Ratings from 100 through 190 BTU per hr. at 1° T.D.

- Reasonable Cost
- Simple Design
- Fool-proof

the NEW ANGLE in Low Temperature Units with Vapor Hermetic Defrost

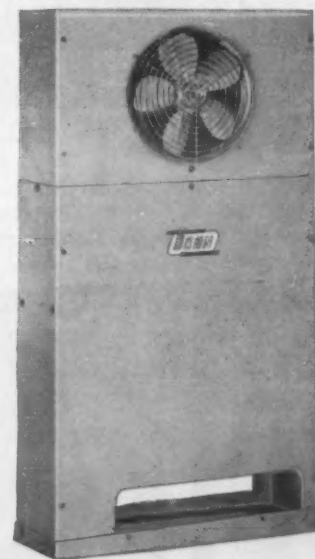
Extensive BOHN engineering research has led the way to a new idea . . . a defrost system that's unique in simplicity. A hermetically sealed vapor electric heating system is built within the coil. Heated vapor circulates by gravity, eliminating expensive flow control devices.

This system removes uncertainties and variables. It is not necessary to penetrate the frost barrier. Extra piping and complicated installation problems are avoided.

Features include an adjustable defrost time clock, heating pad in drain pan and temperature terminated switch. Easily-accessible, cartridge type heater elements in hermetic system eliminate leak tests.

Write today for full details. Reserve your free copy of BOHN CATALOG BU-1.

Model LM Mullion Lo-Temp for upright freezers. Ratings of 140 and 190 BTU per hr. at 1° T.D.



UL **MASSIVE DEPTH FILTERING!** **FILTER-DRIERS**

Super-Flo's massive fibreglass depth filter and a molded drying element increase foreign matter, moisture and acid removal. Write for low prices.

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Manufacturers of Commercial Refrigeration, Industrial Air Conditioning and Special Heat Transfer Surface

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For more information about products advertised on this page use Information Center, page 14.

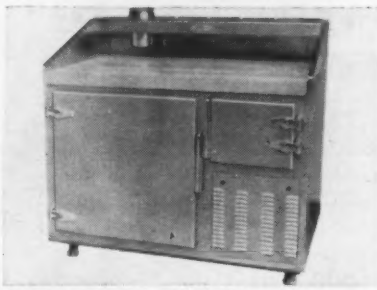
Develops Self-Contained Pizza Dough Retarder

KEY NO. G-1030

NEW YORK CITY—S. & R. Soda Fountain Mfg. Co. recently developed a self-contained pizza dough retarder, 48 by 30 by 36 in.

Top, front face, interior linings, and all exposed surfaces are of stainless steel, with welded steel construction. Ingredient shelf, which is set 10 in. above the working surface, has a large round pan and four square pans, all of stainless steel.

Refrigerated section has a special compartment for the storage



of cheese and other items and can accommodate as many as seven trays for pizza dough.

Introduces Flexible Vacuum Freeze Dryer



KEY NO. G-1031

PHILADELPHIA—A new, self-contained, vacuum freeze dryer was recently introduced by the Vacuum Equipment Div., F. J.

Stokes Corp. of this city.

It combines for the first time efficiency of larger industrial units with flexibility of small laboratory-scale models. Model 2003F2 is suitable for research and development work as well as moderate-scale production.

Products to be dried may be first pre-frozen on the two lower plates or shelves, which are chilled to -40° F. by direct expansion of Refrigerant-22. The product is then transferred to the two upper shelves where it is dried under high vacuum by sublimation. The two 12 by 24-in. drying shelves provide a total drying area of 4 sq. ft. The two lower refrigerated plates serve as the condenser plates during the drying cycle, and have a condensing capacity of up to 5 liters of water per batch.

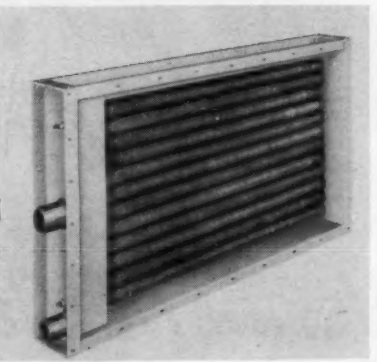
Unit Provides Freeze Resistant Heating Coil

KEY NO. G-1032

DETROIT—A new 1-in. o.d. double-tube steam distributing coil unit having supply and return connections at the same casing end is now available from American Blower Div. of American-Standard.

New unit, designated type D1, provides a heating coil of freeze resistant design suitable for use in a broad range of installations.

Available with one or two tube rows deep in a single section for a variety of casing sizes, coil can have two rows in one section.



Quiet Centrifugal Fans Have Airfoil Blading

KEY NO. G-1033

PITTSBURGH—A new series of all-purpose centrifugal fans with airfoil blading has been announced by the Westinghouse Electric Corp. Most fan noise is caused by

turbulent flow of air set up by conventional flat blades. Airfoil blading on the new fan line creates streamlined air flow pattern and makes possible perceptibly quieter operation, the company claims.

Announces Downflow Blower Furnace

KEY NO. G-1034

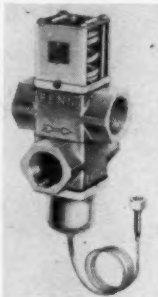
SAN FRANCISCO—A new 35,000 and 45,000 B.t.u. downflow blower furnace has been announced by Fraser & Johnston Co.

This model, the 35 and 45 RJD, is 8 by 27 1/4 by 60 1/2 in. It incorporates all features of the company's larger upflow and counterflow models.

Water Regulating Valve Line Offered

KEY NO. G-1035

GOSHEN, Ind.—A new line of water regulating valves, available from Penn Controls, Inc. has been designed for maintaining uniform refrigerant head pressure regardless of the water temperature returning from the cooling tower.



Valve is applicable to commercial refrigeration and air conditioning systems which may fall well below their rated capacities unless head pressure is maintained within reasonable limits. It provides automatic regulation of water flow, to keep the water temperature from falling too low for efficient operation because of low air temperatures at the tower.

Valve's three-way action permits water to be diverted from the condenser into a by-pass line to the tower nozzles. This eliminates the adverse effect on nozzles or wetting surfaces due to flow restrictions.

Display Case Permits Access from Either Side

KEY NO. G-1036

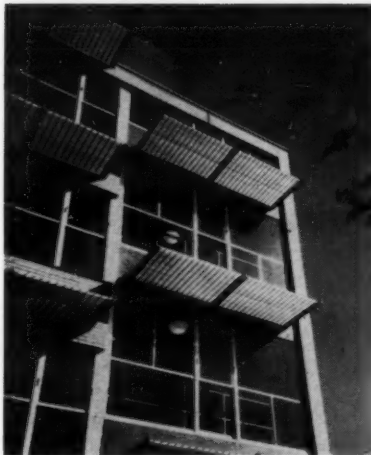
MT. VERNON, N. Y.—Both front and back of island display wall case are finished alike in Peerless Equipment Corp.'s new model.

Case can be installed as part of island counter so as to permit access to its contents from either aisle or it can be used as a pass-thru, the company said.

Length of model RIS-35 is 54 in., depth, 30 in., height, 75 in. Self-contained unit has 1/3-hp. compressor, stainless steel exterior front and exterior back, aluminum exterior sides, and interior 35-cu. ft. capacity. It has four sliding glass doors (two front and two back).



Uses Standard Panel Grating as Sunshades



modern architecture has been announced by Irving Subway Grating Co., Inc.

The company has made available standard panels of grating for use as sunshades on school buildings and other structures which often require large glass areas for natural lighting.

Grating panels can substantially reduce cooling costs of completely air conditioned buildings by preventing the intense rays of the sun from generating excessive heat on window glass, the firm said. Hot air cannot become trapped next to glass; it circulates freely through the open mesh of the grating.

The grating also helps control sky glare from direct sunlight while admitting the maximum amount of daylight.

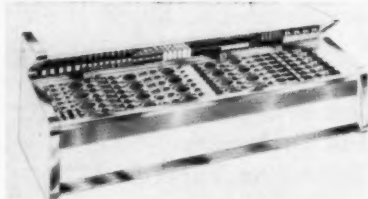
KEY NO. G-1037
LONG ISLAND CITY, N. Y.—A new method of sun control for

Wall Merchandiser Features No-Glass Front

KEY NO. G-1038

MARSHALL, Mich.—A new, futuristic-styled "Deep Cold" wall merchandiser for frozen foods has been announced by Sherer-Gillett Co. here.

The new case, featuring a 34-in. "lo-front" for easy shopping, continues the Sherer no-glass-front design. Available in full display lengths of 12 ft. and 8 ft., the merchandisers have large capacities with seven average 10-oz. frozen food packages in full view



of the shopper from front to back of the display. It will hold nine packages deep thus insuring full displays with minimum restocking time, the firm claims.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

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What's New or Current Literature Available

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Key No. Key No.
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Key No. Key No.

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(Please Print)

Company

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City..... Zone..... State.....

Type of Business

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DETROIT 26, MICHIGAN

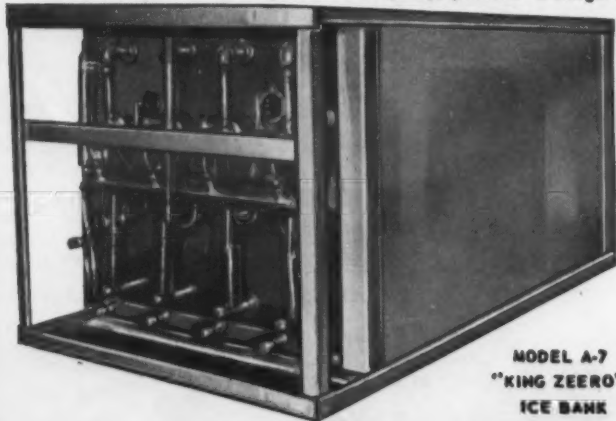
"King Zeero's" Sweet Water ICE BANKS offer ICE - CONCENTRATED Refrigeration for Air Conditioning

CONTINUOUS RIFLED GALVANIZED COILS
EXPANSION VALVE CONTROLLED

32° - 34° COLD
ICE WATER

DESIGNED FOR USE WITH: FREON
METHYL CHLORIDE - AMMONIA

The "King Zeero" ICE BANK is designed for air cooling in Churches, Mortuaries, Theatres, Offices, Stores, Auditoriums, Factories, Clubs, Restaurants, etc. Ice Banks may be added to existing systems for increased capacity. The "King Zeero" ICE BANK is designed to deliver 32° to 34° F. sweet water for recirculation through secondary equipment. Design temperatures may be obtained with mixing valves.



MODEL A-7
"KING ZEERO"
ICE BANK

CONSIDER THESE ADVANTAGES--

- DIRECTED COURSE OF WATER travels with "built-in" agitation.
- NO MECHANICAL AGITATION REQUIRED.
- LARGE WATER COMPARTMENTS spaced on 11" and 12" centers.
- 33% EXTRA ICE CAPACITY safely attained with up to 300 G.P.W. water flow.
- ICE IS "BURNED OFF" PLATE COILS progressively, exposing prime and secondary surface for maximum flash cooling capacity.
- ICE THICKNESS automatically controlled - eliminates "freeze ups."
- 94 SIZES to fit space requirements. Other designs for special applications.

CAPACITIES - 500 lbs. to 30,000 lbs. (72,000 B.T.U.'s to 4,320,000 B.T.U.'s) in a single unit. Multiple units may be installed.

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International Heater Co. (Utica, N. Y.)—**FARQUHAR & CO., INC.** has been appointed the advertising agency for both the heating and air conditioning equipment divisions.

York Corp., subsidiary of **Borg-Warner Corp.**—**WARREN CONNOLLY CO., INC.**, New York City, has been named distributor of room air conditioners for that area. **YORK DISTRIBUTORS, INC.**, Long Island City, N. Y., has been appointed wholesale distributor of York residential air conditioners and commercial ice-making units in the metropolitan area.

C. W. Dean & Associates (Memphis)—This manufacturers' representative has expanded its line to include **American Air Filter Co.**, Inc.'s air filter, engine, and compressor products in addition to the already handled dust control, **Herman Nelson** unit ventilator and heating and ventilating units.

Dyfoam Corp. (New Castle, Pa.)—**LEO T. KELLY** has been named sales representative in the middle Atlantic states. He will headquarter in Pittsburgh.

Buensod-Stacey, Inc.—**BARNHART-DWYER CO.**, Albuquerque, N. M., and **PEDLEY EQUIPMENT CO.**, Charleston, W. Va., have been named sales representatives.

Trion, Inc.—**AIR FILTER SALES & SERVICE CO., INC.**, Jackson, Miss., and **DEVLIN BROTHERS**, New Orleans, have been appointed representatives for Trion's commercial and industrial electronic air cleaning units.

Merkle-Korff Co.—**ZASLOW SALES CO.**, W. Hartford, Conn., has been named sales representative for all New England except Fairfield county, Conn. M-K makes fractional horsepower geared motors and industrial and display turntables.

Embassy Steel Products (Brooklyn)—Appointment of **HIGHLAND PLUMBING & HEATING SUPPLY CO.**, Baltimore, as wholesale distributor has been announced by this manufacturer of convectors, baseboards, fin tubes, and boilers. The firm has also been appointed distributor of **Kelvinator-Embassy**

WHAT... WHEN... WHERE — A Guide to Coming Events of Interest

Milk Industry Foundation Convention
Oct. 21-23, San Francisco.

National Electrical Manufacturers Association Meeting
Nov. 11-15, Traymore hotel, Atlantic City.

American Society of Refrigerating Engineers Meeting
Nov. 14-16, Shoreland hotel, Chicago.

Refrigeration & Air Conditioning Contractors Association Convention
Nov. 16-18, Drake hotel, Chicago.

Air Conditioning & Refrigeration Wholesalers Meeting
Nov. 17-18, Morrison hotel, Chicago.

Refrigeration Service Engineers Society Convention
Nov. 16-19, Hotel Morrison, Chicago.

National Commercial Refrigerator Sales Association Convention
Nov. 18-19, LaSalle hotel, Chicago.

National Association of Practical Refrigerating Engineers Convention
Nov. 18-21, Del Prado and Sherry hotels, Chicago.

10th Exposition of the Air-Conditioning & Refrigeration Industry
Nov. 18-21, International Amphitheatre, Chicago.

National Warm Air Heating & Air Conditioning Association Convention
Nov. 18-22, Hotel Morrison, Chicago.

National Electrical Contractors Association Convention
Nov. 13-16, Cincinnati.

"Weather-Twins" cooling and heating systems.

Turner Brass Works (Syracuse, N. Y.)—Appointment of **J. A. KANE ASSOCIATES** of Atlanta as manufacturer's representative in Virginia, North and South Carolina, Georgia, and Florida has been announced.

Recold Corp.—The recently-organized **DON BACHMAN CO.**, Denver, has been named distributor of Recold's heating and air conditioning products in that area. Besides Recold, Bachman Co. represents **Bishop & Babcock**, Air Filter Corp., **TOT Towers**, and "Dustronic" filters.

Chempump Corp. (Philadelphia)—Three new sales agents have been appointed: **CHEMICAL PUMP & EQUIPMENT CORP.**, Chicago, now handles sales and engineering service in the northern Illinois, northwestern Indiana, and Chicago areas; **TATE ENGINEERING, INC.**, Baltimore, handles sales and service in Virginia; **PROCESS SALES CO.**, Beaumont, Texas, operates in the Texas Gulf Coast region.

Territory of Chempump's Cleveland representative, **CHEMICAL PUMP & EQUIPMENT CORP.**, was expanded to cover the southern Ohio area in addition to the present northern Ohio territory.

Copeland Refrigeration Corp.—**W. H. KIEFABER CO.**, Dayton,

has been named wholesaler in that area. It will maintain complete stocks of replacement motor-compressors, open-type belt-driven compressors, valve plates, relays, capacitors, and complete condensing units.

Norge Div., Borg-Warner Corp.—**SOUTHERN EQUIPMENT CO.**, San Antonio has been named home

appliance distributor. **HUDSON VALLEY ASBESTOS CORP.** was appointed gas and electric appliance distributor for 14 counties in the Albany, N. Y. area.

Allis-Chalmers Mfg. Co.—Appointment of **HANNON ELECTRIC CO.**, Canton, Ohio, as distributor

for pumps, motors, controls, transformers, and V-belt drive equipment in Summit, Portage, Stark, and Tuscarawas counties, Ohio has been announced. **HILL ELECTRIC AIR CONDITIONING, INC.**, Wichita, Kan. has been named pump distributor in 10 central and southeastern Kansas counties.

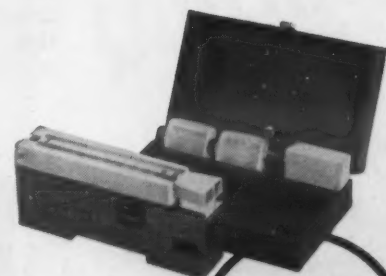


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DESICCANTS AND DRIERS

Part 5—Requirements of a Desiccant—II

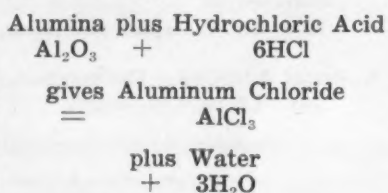
By Frank J. Versagi

Probably the most spirited discussion of desiccants involves the two popular physical type desiccants—activated alumina and silica gel. In varied forms, these are undoubtedly the two most common refrigeration desiccants.

Activated alumina is a special physical form of aluminum oxide. It is supplied in several types, some better desiccants than others. In commercial drier cartridges it will be found in granular form, in round balls, and in solid cores.

A good water remover, activated alumina will also remove acid by adsorption. The claim has been made that even when

saturated with water, activated alumina will remove acid by chemical action. This reaction does take place, very slowly, but it is not a desirable reaction, since water is one of the reaction products.



The aluminum chloride, too, would be a source of trouble, since it is a soft compound which would tend to travel with the refrigerant stream.

In practical refrigeration, however, it is difficult to imagine this reaction occurring to a degree intense enough to cause difficulty, since the unit would probably have fallen apart long before such a reaction would occur.

SILICA GEL WON'T REACT WITH HCl

Silica gel is silicon dioxide. It removes water and acid by adsorption and is not known to react chemically with any of the substances normally present in a unit. It will not chemically react with hydrochloric acid as does activated alumina.

Top quality refrigeration grade silica gel dusts very little, but the dust is hard and abrasion would be a problem in a poorly designed drier which would allow the dust to pass into the unit.

Which is the better desiccant, silica gel or activated alumina? Contradictory claims have been made.

FAIL TO IDENTIFY DESICCANT ACCURATELY

Actually, there are more than one type of each of these desiccants; more than one activated alumina, more than one silica gel. Many published comparisons fail to identify the desiccant accurately.

Then, too, the desiccant as it reaches the field in completed driers is seldom at full activation. During the manufacturing

and assembly operations on the drier, the desiccant will pick up some moisture. All reputable manufacturers pass the completed drier through a final reactivation under heat and vacuum or under heat alone, but this final activation never quite brings the desiccant back to its full water capacity. A desiccant taken from a drier on a dealer's shelf will almost never have the same water pickup as that same desiccant as it came from the manufacturing operation.

In all cases, the water pick up left is more than enough to serve most refrigeration needs, but will vary from lot to lot of finished driers.

Added to these two factors is the fact that commercial desiccants are frequently treated with non-dusting agents or substances to make them hold some desired shape. These additions naturally change the water pickup of the desiccant.

INCONSISTENT RESULTS

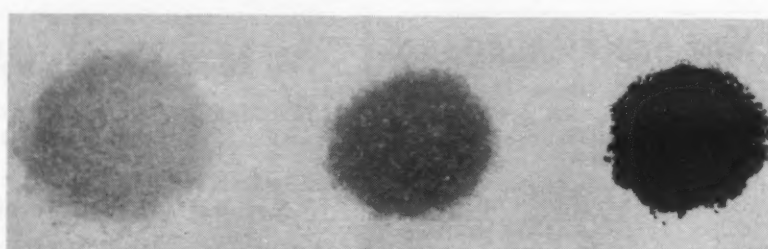
When one or more of these factors—different grade, difference in finished drier, or addition agents—are neglected in comparison, inconsistent results are naturally obtained.

Finally, the analytical methods used to determine moisture left in a refrigerant are so difficult that even experienced chemists have difficulty getting results to reproduce. When you consider the fact that these methods require weighing changes in the millionth of ounces on samples weighing a quarter of a pound or so, it is easy to see why three or four laboratories, running the same test, get different results.

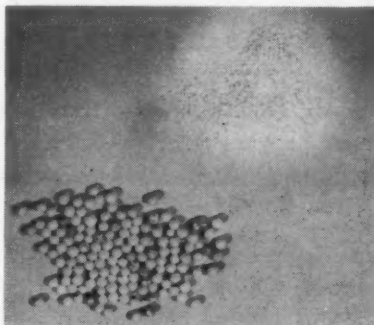
FINAL DESICCANT TEST IS IN FIELD

The final test of a desiccant is in the field. Both activated alumina and silica gel have people who swear by them and people who swear at them. Take for example, a serviceman who has difficulty drying out a system with activated alumina driers. After using several, he switches to a silica gel drier and the first one does the job. If he's had a hard day, it will be hard to convince him that exactly the same thing, in reverse, has happened to other servicemen.

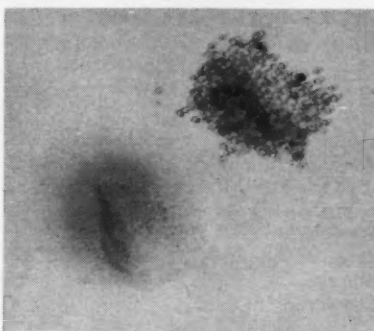
Each of the two desiccants has been accused of releasing moisture at high liquid line



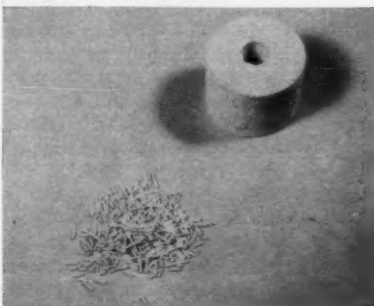
WHAT can happen to a desiccant in a unit. Left: new desiccant; center: used two years in clean unit; right: used six months in unit with air/moisture leak.



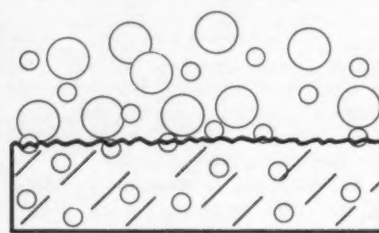
Activated alumina.



Granular and beaded silica gel.



Rod-shaped molecular sieves. Briquette can be made from any one desiccant or from a mixture of desiccants.



DESICCANT

○ WATER MOLECULE

○ REFRIGERANT MOLECULE

Molecular sieves. In effect each particle of this desiccant filters out the larger refrigerant molecules and only allows the smaller water molecules to be adsorbed.

detail about rating driers.

The final choice of activated alumina or silica gel is usually based on considerations other than water capacity, since in this regard they are as equal as commercial products of any type can be. The physical design of the drier; whether granular, shaped, or briquetted forms are desired; whether the desiccant is to act as a filter or in conjunction with a separate filter—all of these things decide which desiccant is used.

MOLECULAR SIEVES 'MOST EFFECTIVE'

The most effective physical type desiccant available today, from the standpoint of water removal is the new Molecular Sieves. This is a Linde trademark for a mineral desiccant made either from calcium-alumino-silicate or sodium-alumino-silicate. Supplied in irregularly shaped rice sized granules, this desiccant will adsorb up to 19% of its weight in water and still keep refrigerants down to safe moisture levels.

Further, molecular sieves give up less water as the temperature rises than does either activated alumina or silica gel.

Working against these advantages are the disadvantages of very high price and considerable dusting. This desiccant will remove acid by adsorption.

At least one company has come out with a small drier charged only with molecular sieves. Several others are supplying or considering driers charged with a mixture of molecular sieves and some other standard desiccant. This will accomplish the dual purpose of increasing water adsorption without reducing effective filter area or unduly increasing the cost.

SOURCE OF NAME

(Incidentally, the name molecular sieves is derived from the fact that this desiccant will filter out molecules of different sizes. The sieves will hold back the large molecule of refrigerant but let in and hold the smaller molecule of water.)

The industry long ago decided that they wanted more than drying action in a drier. Next we will look at the total drier and evaluate it in reference to the several jobs it is expected to perform.

(To Be Continued)

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Advices 'Urgency' of Research, Development To Up Sales, Reduce Costs, Improve Products

WASHINGTON, D. C.—The importance of research and development for small business was stressed by Dr. Lyle M. Spencer, president, Science Research Associates, Chicago, at the president's conference on technical and distribution research for the benefit of small business.

"National research and development expenditures, currently between \$5 and \$6 billion, are growing at a rate considerably higher than 10% per year, over 4 times the increase of the gross national product," he declared.

'50% of Big Firms' Sales Stem from Research-Development'

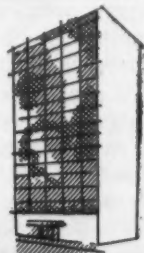
Dr. Spencer said, "While conditions vary from one industry to another, it has been estimated that more than 50% of the sales of large manufacturing companies stem from research-developed products that did not even exist before World War II.

"Astonishing contrasts exist between the growth and profit statements of corporations that pursue aggressive, well-planned research programs and those that do not."

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Dr. Spencer outlined four ways in which small businessmen can utilize research and development. They are (1) to increase sales, (2) reduce costs, (3) improve old products and develop new ones, and (4) enlarge profits.

He pointed out five major psychological barriers in the minds of most small business executives that must be overcome in order to encourage small firms to install or expand well-conceived research and development programs.

One such barrier, he said, was that few small businessmen realize yet that there exists a great urgency of undertaking sound research and development programs to maintain and improve their competitive business positions.

"Yet," Dr. Spencer pointed out, "surveys show that the number of research laboratories have grown from 1,000 in about 1930 to nearly 5,000 today and the number of research scientists from 50,000 to a whopping 250,000.

Another such barrier is the belief that financial risk is too high and the results too uncertain.

"The facts are that the risks in new product development are likely to be the highest, a good deal lower in distribution research, and possibly lowest in finding new cost-cutting procedures.

'Doubts Well-Founded'

"The doubts of small businessmen about undertaking such risk are well founded and the best advice and counsel are needed in finding new means by which these risks can be reduced," Dr. Spencer stated.

Still another barrier is the knowledge that research is inherently too expensive and the payoff takes too long.

"The establishment of even a modest-sized research department is a material item for even middle-sized companies and far beyond the reach of most small ones," Dr. Spencer explained.

The fourth barrier is the thought that even if small busi-

nessmen could develop a research program that would pay off, there would be the lack of necessary working capital to finance the company's growth that would result.

"Possibly the most controversial topics among small businessmen are the questions of

Wendell B. Barnes, chief of the Small Business Administration, outlined in the Oct. 14 issue how his agency helps small business to help itself. SBA is ready to provide financing, offer aid in obtaining government contracts, and help solve management and technical problems, he said. This week, the importance of research is stressed. Other articles on the SBA will appear in future issues.

credit and access to working capital. However," Dr. Spencer said, "while credit is tight in most areas, banking communities agree that adequate short-term funds can be borrowed on reasonable terms for nearly all legitimate purposes."

The survey also revealed that some small businessmen admitted the importance of the research program but did not know how to plan, staff, and operate such a program.

"Profitable research and development programs can be carried out only when accompanied by well-conceived, long-term company plans," Dr. Spencer stated.

Besides categorically naming and explaining the five main barriers in the minds of small businessmen against research and development programs, Dr. Spencer pointed out a few firmly imbedded mental factors that often militate against the establishment of a sound research program.

"Sometimes," Dr. Spencer said, "these factors are deep-seated personality traits: an aging president desirous to conserve the profits earned in his younger years, the lazy company owner who dislikes hard work and longer hours; the president who temperamentally cannot permit his company to grow beyond the size when he can oversee every operation and make every decision, and the know-it-all lone wolf who feels he needs to consult no one.

"We have encountered scores of alert small business execu-

tives who now employ research imaginatively and inexpensively to improve the competitive position of their firms."

Small businessmen who believe in research and use it successfully, he said, are able to

(1) predict which new products or distribution programs are most likely to increase their sales,

(2) understand which elements in each program makes for its success or failure, and

(3) experiment inexpensively with many more programs than they could afford to undertake on a full-scale basis. Thus they can sharpen their judgment and select with minimum risk the programs that will prove most profitable.

Quoting an astute executive, Dr. Spencer said, "Sensible research helps more than anything I know to separate our prejudices and presuppositions from what the customer really wants to buy."

'Research Can Be Applied Successfully'

"It is evident," he summarized, "that research techniques can be applied successfully to nearly all types of small business, both in the technical and distribution fields.

"Research discoveries represent the main route to progress for business in the next generation. Most small businessmen possess vast stores of initiative and drive that can be turned enthusiastically to solving their personal problems of research and development once the barriers in their minds and the attitudinal resistances have been torn away," he said.

Firm Incorporated

NIAGARA FALLS, N. Y.—McHugh Refrigeration Service has been incorporated here with capital of 100 shares, it has been announced.

Calif. Appliance Bureau Fetes 25th Anniversary

SAN DIEGO, Calif.—Silver anniversary banquet of the Bureau of Home Appliances of San Diego county capped a month-long celebration with a record turnout of 600, the group reported.

Principal speakers, Cramer W. LaPierre, executive vice president of General Electric Co., and Robert R. Gros, vice president of Pacific Gas & Electric Co., headlined the program which included a film and sound review of the bureau's highlights from its beginning to the present, a spokesman pointed out.

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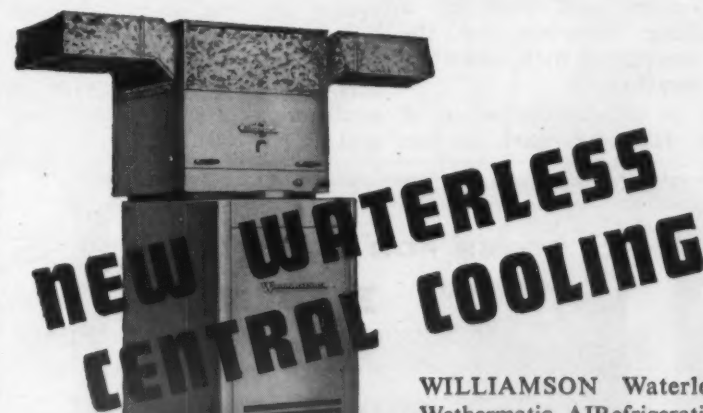
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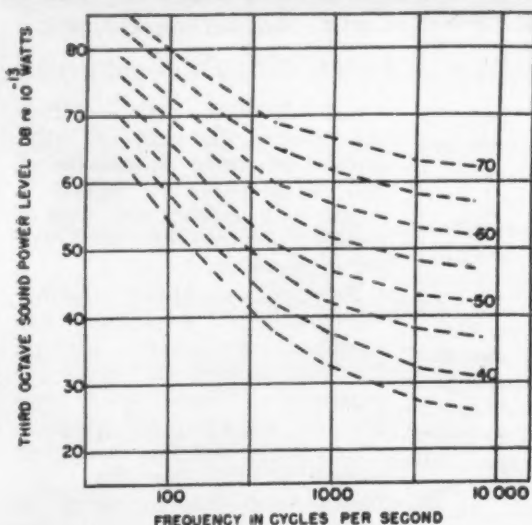


FIG. 1—"Constant annoyance contours" combine four sound measuring units into a composite description of how the human race reacts to noise.

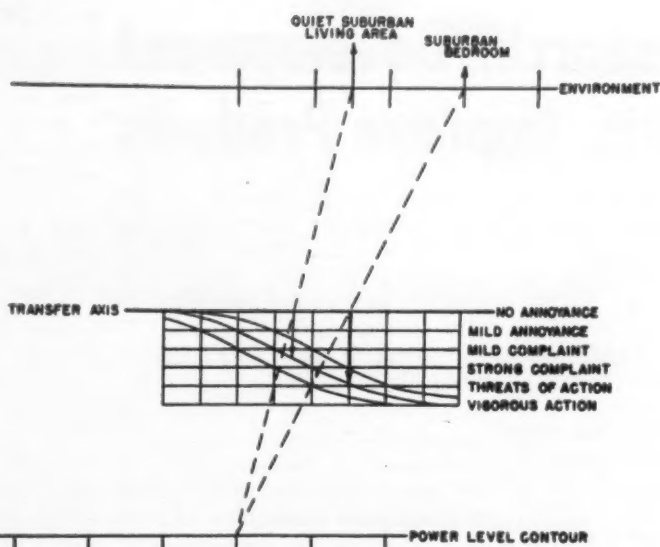


FIG. 2—This nomogram relates sound annoyance contour to environment to offer solution to probable range of listener reaction.

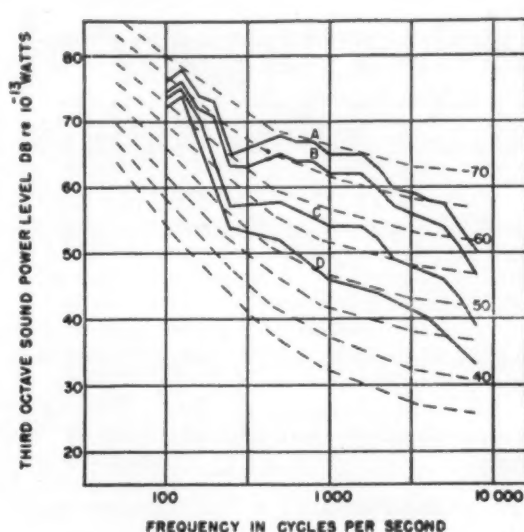


FIG. 3—These four constant annoyance contour curves compare sound control efforts.

Importance of Sound Control In Residential Systems, New Way To Evaluate Noise Outlined at Conference

By Warren Blazier, Research Engineer, The Coleman Co., Inc.

Growing importance of the need to keep noise levels at a minimum in residential air conditioning is fast being recognized as a major problem for design engineers and installers.

Current views on this problem were outlined by Warren Blazier of the Coleman Co. at the second technical conference held in Cleveland earlier this year by the National Warm Air Heating & Air Conditioning Association.

During the past few years, criticism of operating noise levels in residential heating and air conditioning systems has increased faster than the technological improvement in system design. Customer satisfaction is no longer gained strictly upon the relationship between B.t.u., comfort, and cost, but is conditioned more and more by a diminishing tolerance for the noise associated with manufactured weather.

This is a complex state of affairs. However, part of this

complexity is due to an inadequate definition of what our industry noise problems really are. Also, meaningful criteria have not been developed to deal with the solution of these problems on a practical basis.

We talk about such units of measure as the decibel, the phon and the sone; but how do we use these terms to understand and solve problems unless we first have a criterion to point us in the right direction and tell us how far we need to go?

Factors Necessitating Better Noise Control

A criterion is a useful thing—provided it assures the desired result. A noise criterion for residential heating and air conditioning systems is unique. We cannot use those developed for commercial applications because the attitude and environment of the user is different and his reaction to system noise much more critical. We should take a candid look at some of the factors which have created an acute need for better noise control.

At the top of the list is the architectural trend to open plan, compact, living-machine type housing. Heating and air conditioning appliances are now found in closets, alcoves, and utility rooms, in the midst of or adjacent to the most sensitive living area. System noise is commonly shot right at the customer from straight through air returns and short stub-duct outlets. Space is at a premium.

This architectural trend is one which we must accept. In this area we can have only minor influence.

Space Requirements Become Problem

The second contributing factor is the vicious cycle of trying to do more and more with less and less; sooner or later something has to give. For example, as a direct result of the architectural trend, the market is for compact equipment. Heating and cooling plants are being reduced in size to fit a few square feet of space set aside by the architect or builder.

Any overflow of equipment needed to do the job is stuffed into attics and crawl spaces or wherever there is still a little extra room that is unassigned. However, this "little extra room" is virtually right in the midst of the living area.

One result of this trend to compactness is that we have raised the speed of fans and blowers to obtain the necessary performance with a smaller unit, because this appears the easiest way to do it. Increase in the blower speed may be one way to get performance in a compact unit, but it's hardly the way to do it quietly.

In my opinion, the most acute noise problem in residential heating or cooling installations today is a result of the commonly used, cost saving, through-the-wall short return air duct. Even potentially quiet equipment is severely penalized in installations of this type. The noise on the discharge side of the system is something over which we have more control. It certainly does not represent a problem of the same magnitude as the short return.

We should also take a candid look at the present conventions for rating and classifying noise. First, there is the decibel. The

decibel is probably the most over-worked, misunderstood, and misapplied term in our industry today. A decibel reading on a noise has no other meaning except that the energy content of the sound is at a certain level with respect to a fixed reference.

Many everyday sounds have the same energy content, and hence, can be represented by the same number of decibels, but this does not mean they all sound alike nor are they equally acceptable.

Describing a noise as "so many decibels" is a means of over simplification. A typical example of this is the FHA ME-12 requirement No. 8 pertaining to the noise of summer air conditioning systems. This requirement provides for a single number decibel rating with only one refinement, that it should be measured on the 40 db. weighting network!

The 40 db. weighting network was introduced a number of years ago as an alleged substitute for the opinion of the human ear. Its failure to do this with a shred of reliability is well documented past history. The failure of the ME-12 requirement to assure anything but a hassle with the FHA inspector is fast becoming legend.

Austin Village Experiment Cited

The air conditioned village experiment in Austin, Texas, lent mute testimony to this fact. Systems, which were obviously quieter than those in neighboring houses, would not qualify; while those that did, frequently, rumbled and rattled, annoyed the occupants, and defied efforts at silencing.

As a noise measuring unit, the decibel term is very useful provided it is used to describe the shape and distribution of the frequency spectrum rather than an all-encompassing "total energy" value.

The phon is another term which has been bandied about like the decibel. It is like a second cousin, possessing all the undesirable family traits. The phon rating is supposed to reflect a frequency weighting for the non-linear characteristics of normal human hearings. However, many different sounding noises can have the same phon value but not necessarily produce the same annoyance. Residential noise control must be a control on the annoyance level of sound to be really effective. For this use, the phon has little

practical meaning.

The most recent newcomer in this "battle of the units" is the sone. For certain purposes, the sone is a very useful term. The sone is a calculated value for the loudness of a sound. Unlike its relatives, the decibel and phon, the sone is a linear unit. For example, if the number of sones is doubled, a listener will say that the noise now sounds twice as loud. If we cut the sone value in half, a 50% reduction in loudness is reflected. The trouble with this method of noise rating is that, again, the annoyance reaction of the listener is not necessarily predicted by the calculated loudness.

Customer Reaction Must Be Predicted

A noise criterion for residential heating and air conditioning systems must reasonably predict the range of customer reaction in order to be useful and practical. Over-simplification of what should be included in such a criterion must be avoided. We should first find the criteria which gives consistent results then get simplification.

Fortunately, the variety of academic concepts as to how we go about putting a number on a noise to be congealing. A set of constant annoyance contours have been recently proposed which are believed to describe the level and shape of the audio frequency spectrum which produces a known potential annoyance level.

These contours are the result of combining the decibel, the phon, and the sone as well as another useful concept called the speech interference level, into a composite description of how the human race reacts to noise. The evolution of these constant annoyance contours represents a large simplification of the complex problem. The current opinion is that we can't simplify much farther without sacrificing reliability.

To use these contours subjectively one needs two fundamental raw materials: the physical properties of the noise generator and the environment in which it is to be placed. The most useful form for expressing these properties is in terms of the sound power output in a series of frequency bands covering the audio spectrum. In our research at Coleman we have found division of the audio range into bands one-third of an octave

(Concluded on next page)

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Residential System Sound Control--

(Concluded from preceding page) wide provides consistently better results than the more common full octave division.

The constant annoyance contours shown in Fig. 1 are essentially those recently published except for slight modifications in scale to utilize sound power data in one-third octave bands. These contours are used to establish the annoyance level of a noise. They are particularly applicable to noise created by fans and blowers.

The annoyance level of a noise plotted on the sound power versus frequency grid is defined as the highest numbered contour which is reached by any portion of the curve. The way this annoyance level ranking may be used is shown in Fig. 2.

Fig. 2 is a nomogram which relates the annoyance or power level contour to the environment in which the noise is radiated and offers a resolution to probable range of listener reaction.

The range of annoyance reaction, indicated in the center portion of the nomogram, is bounded by three curves. The center curve is the average reaction and the outer two indicate the probable spread.

If we draw a line between the contour level and a selected environment, then draw a perpendicular to the transfer axis at the point of intersection, the probable response is then predicted as indicated. Two such solutions are shown in Fig. 2 for the same noise but in different environments.

Bedroom Noise Vs. Living Room Noise

It is significant to note that noise which might just squeeze by in a "quiet suburban living area" with a mild complaint on the average, simply would not be tolerated in a bedroom.

Let's take a look at a practical application. In Fig. 3 the constant annoyance contours are shown again but this time, the power level spectrum of a typical furnace blower is superimposed. Curve A is the radiated power spectrum of the noise entering the living area via a short through-the-wall return opening in the side of the furnace. This is a typical installation type; the result is a No. 70 annoyance contour.

Curve B shows the change in radiated noise after adding acoustical treatment to the three remaining walls of the blower compartment, but still keeping the short side return. We reduce the annoyance level to about the No. 67 contour.

The improvement which is gained by acoustically treating the four side walls of the blower compartment and using a lined-platform, bottom-return is shown in Curve C. With this configuration we drop to about the No. 58 contour.

For the deluxe installation, we can use a 3-ft. long return duct lined with acoustical material ahead of the platform-return configuration of curve C, dropping the noise to curve D and a level of about No. 50.

The foregoing selection of contour levels has ignored the fact that only minor differences exist in the low-frequency components of Curves A through D.

The meaning of the exception will be evident later.

In Fig. 4 we have the nomogram solutions for the installations A through D heard in a "quiet suburban living area."

Here we see that the standard untreated side return (curve A) is slated to provoke many strong complaints. Some customers are likely to be outspoken in the clamor for relief.

Suppose the dealer responds and sends a man out to "stuff some Fiberglas in the blower compartment." Should he select a good quality acoustical material to do the job the results of curve B should occur. The customer may agree that the noise has been helped a little bit but definitely not be satisfied. The indicated reaction is still a strong complaint.

Curve C shows that had the original installation been made

using an acoustically-treated, platform-return, the complaint might never have occurred. However, incorporating a 3-ft. treated return-duct with the platform would have insured virtually no complaints at all. This is the nomogram solution for curve D.

Returning again to Fig. 3, we noted previously that none of the curves A through D actually changed much in the vicinity of 120 cycles per second. As a matter of fact, the customer satisfaction we just predicted won't materialize unless this portion of the curve is also reduced to a similar contour level.

So frequently, the noise indicated in this region of the sound spectrum is the ordinary garden variety motor or transformer hum at 120 cycles per second. Acoustical treatment will be found useless.

The solution may take the form of a more resilient motor mounting, vibration isolation of

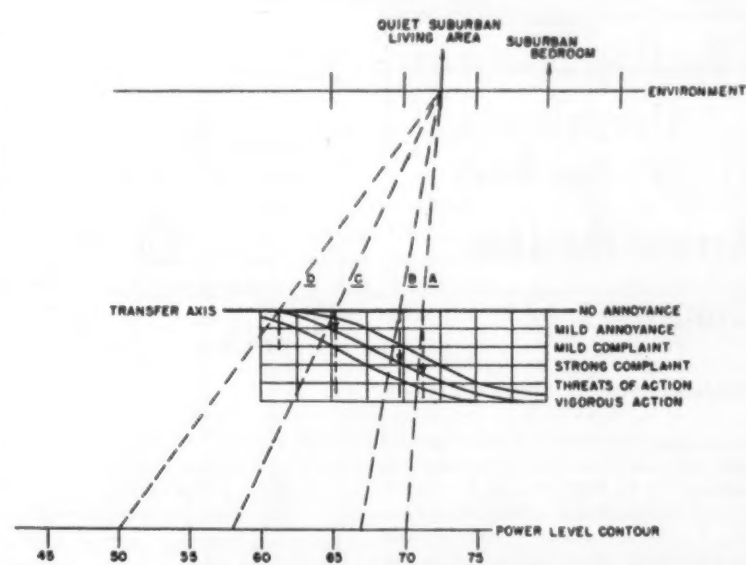


FIG. 4—Curves or installations of Fig. 3 are here plotted on nomogram to gauge listener reaction.

the blower assembly from the furnace, simply replacing the motor, or sometimes a combination of all three. Even with curve D we can anticipate a moderately strong complaint level. However, the customer will describe it as a humming sound rather than air noise.

Tecumseh

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VISION

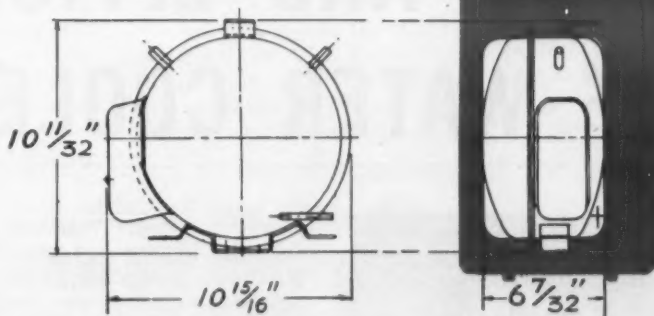
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Refrigeration Problems

(By Paul Reed)

Across-the-Line Diagrams (2)

USING AN ACROSS-THE-LINE DIAGRAM ON A THREE-PHASE LAYOUT

Another example of the use of the Across-the-Line diagram is illustrated in Figs. 5 and 6. Fig. 5 shows a schematic wiring diagram of a conventional, remote air conditioning installation, with the compressor driven by a 220-volt, 3-phase motor.

This motor is actuated by a 3-pole magnetic starting switch equipped with inverse time element thermal overload relays in two of the legs. The magnet coil is controlled by a dual pressure control.

The 220-volt fan motor is single

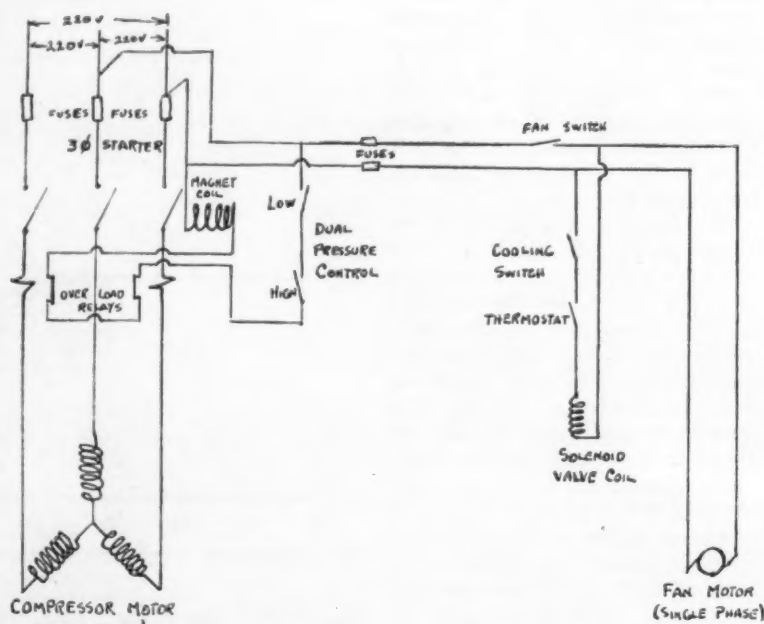


FIG. 5—Schematic wiring diagram of a conventional conditioner.

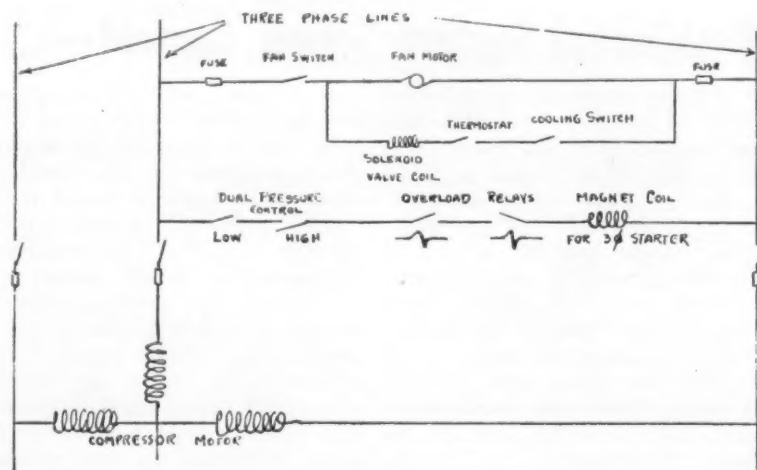


FIG. 6—Same wiring diagram as Fig. 5, converted to across-the-line.

phase, and is controlled only by a manually operated Fan Switch. Fuses are provided in the line, but the motor is protected from damage from overload by a built-in bi-metallic overload protector.

The electric solenoid valve is in the liquid refrigerant line, so that when it closes, the low side is pumped down and "dry" of refrigerant.

The low-pressure control (of the dual-pressure control) is set to open at about 25 p.s.i.g.; when the low side pressure gets down to 25 p.s.i.g., the low-pressure control opens, the magnetic starting switch drops open, and the compressor stops.

The opening and closing of the electric solenoid valve is controlled by a Room Thermostat. When the room warms up, the room thermostat closes, the coil of the electric solenoid valve is energized, and the valve opens. Liquid refrigerant flows into the low side, the low side pressure rises, and the compressor starts when the pressure gets up to the cut-in setting of the low-pressure control about 35 p.s.i.g.

The compressor continues to run as long as refrigerant is supplied to the low side. If and when the room gets cool enough to cause the room thermostat to open, the solenoid valve closes, the low side is pumped down, the low-pressure control opens, the magnetic starting switch is opened, and the compressor motor stops.

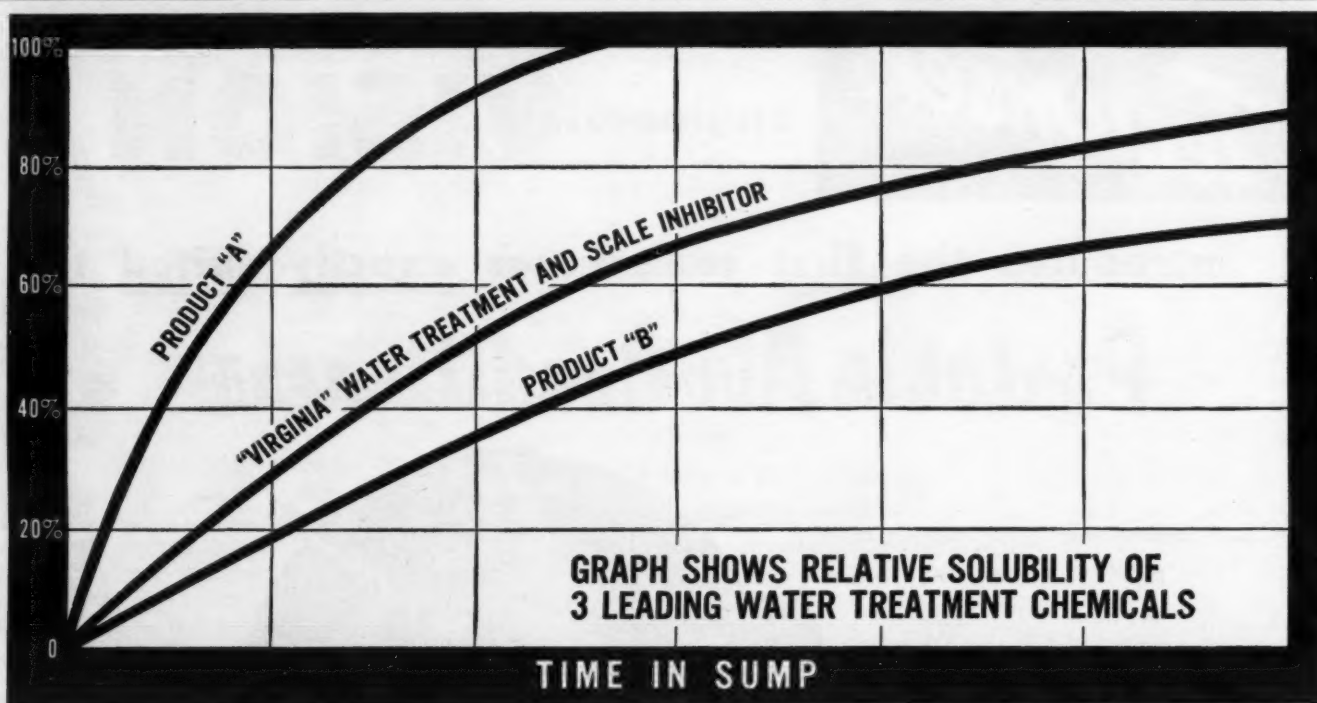
It will be noted that the branch line to the solenoid valve comes off after the fan switch, so that the solenoid cannot be opened, either automatically by the room thermostat, or manually by the Cooling Switch, unless the fan is running.

If the solenoid valve cannot open, the compressor will not run; so this prevents frosting-up of the evaporator and frost-back on the suction line to the compressor, because of no air being circulated over the evaporator.

ACROSS-THE-LINE DIAGRAM APPLIES TO MANY USES

The Across-the-Line diagram will be found very useful for many circuits; not only to aid in tracing and understanding difficult wiring diagrams, but also to make it easier and simpler to lay out a diagram and check it for errors.

Just draw two parallel lines, one down one side of the paper and the other down the other side of the paper. Then run in the motors and other loads between these two lines and connect them to each of the two lines. You will be surprised at how easy and simple it will make diagrams that have seemed difficult.



Note above how Product "A" dissolves too rapidly, with danger of sludging; Product "B" is too insoluble to provide sufficient chemical at any one time to prevent corrosion or scaling. "Virginia's" controlled solubility provides maximum protection to equipment.

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Here's why it's so important to specify "Virginia" when buying supplies for servicing equipment: some products are more soluble than "Virginia's," and too much chemical goes into solution too rapidly, which results in periodic sludge buildups. Others are much less soluble, and not enough chemical is in solution at any one time to give maximum protection against corrosion or scaling.

"Virginia" Water Treatment and Scale Inhibitor is "right in the middle." One application will give maximum protection against corrosion or scaling without

sludging, and maintains cooling capacity at peak efficiency. That's why you must specify "Virginia." Order from your favorite wholesaler. For free booklet "Water Problems and How to Correct Them", write Refrigeration Division, VIRGINIA SMELTING CO., 183 Jefferson St., West Norfolk, Va.



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Organize BHC In Cleveland--

(Concluded from Page 1, Col. 4) tional campaign, already under way, will be dove-tailed with the country-wide promotional activities of the national BHC, headquartered in New York City, the latter group explained.

The national council said it will provide, in addition to its continuous national promotional campaign, specific tools and services including professional guidance and counsel, a color motion picture, consumer booklets and publicity, and a number of specialized "tie-in" promotional projects for local exploitation.

VIGOROUS LOCAL FOLLOW-THROUGH

Purpose of the precedent-setting affiliation, it was pointed out at the meeting by John E. Reed, president of the national council, is to "tremendously increase BHC's promotional impact by obtaining vigorous follow-through at the local level."

Reed, secretary of H. B. Smith Co. and president of Sterling Radiator Co., also praised the group's members and leaders for "outstanding initiative in organizing this bold program to promote hydronics based on the self-reliant principle of spending locally all promotional funds that are raised locally."

PAY NO NATIONAL FEES

He noted that no fees, dues, or contributions are paid to the national council by the Cleveland group.

Newly-elected president of the Cleveland council, Walter Lige, Bell & Gossett Co., said that the Cleveland BHC was "proud to be the first city group to affiliate with the national BHC and to help increase the market for hot water and steam heating and compatible cooling. The results of our aggressive action will benefit all of us, the public included," he stated.

Also present as guests of CBHC were R. Edwin Moore, president of Bell & Gossett and a director of the national council, and Franklin Greene, executive director of the national BHC. Moore congratulated the CBHC members and assured them of full support and coop-

eration by the national association.

Other newly-elected CBHC officers are: Keith D. Clotz, Spohn Heating & Ventilating Co., and George Kelly, McDonnell & Miller, vice presidents; A. C. Gleason, Crane Co., treasurer; Mrs. Wade Rappich, Ohio Pump Service Co., secretary.

In addition to the foregoing, the CBHC board of directors consists of Harold Burens, Burens Heating & Ventilating Co.; R. J. Cleary, Rex Plumbing Supply; S. H. Givelber, Reliance Heating & Air Conditioning Co.; R. G. Harrison, National-U. S. Radiator Corp.; H. C. Hausmann, Welker Supply Co.; W. Jewett, Vulcan Radiator Co.; J. Kramer, Ohio Sanitary; George Palmer, American Standard; Earl Tindall, E. L. Tindall Heating Co.; Austin Vanderhof, Warren Webster Co.; and Horace E. Wetzell, Smith & Oby Co.

WHO CAN BE MEMBERS

Membership in CBHC is open to all contractors and wholesalers who sell or install components of hot water and steam heating systems and/or compatible cooling. Membership by salesmen or representatives of national manufacturers is limited to those whose companies are members of the national BHC.

Franklin Greene, executive director of the national council, explained that local councils would be strengthened by association in the public mind with the national council since the BHC name would be adapted to each local community.

Greene also announced that a new staff member would be hired as liaison man between the national and local groups to help each group achieve maximum return from its promotional efforts.

Big Plant Cooling--

(Concluded from Page 1, Col. 3) gains in the years just ahead."

The Martin plant will house research and manufacturing facilities in the fields of guided missiles, electronics, nucleonics, and small weapons systems. The facility will be the country's first privately owned and financed major aircraft industry plant to be put under Army supervision.

Scheduled for occupancy during October, the \$6 million center is being constructed on a 6,700-acre site, in accordance with the government dispersal program. In addition, space for rapid and economical expansion is available in the event of a national emergency.

In effect, five individual air conditioning systems will be utilized, each centered around a 650-ton-capacity Trane centrifugal water chilling machine called "CentraVac." The CentraVac will distribute chilled water to strategically located air handling units which in turn will provide comfort cooled air for their respective zones.

An interesting aside: the Orlando plant will turn out La Crosse field artillery guided missiles for the Army, while the air conditioning units will be built in La Crosse, Wis.

'Freon' Price--

(Concluded from Page 1, Col. 5) Va., have been named sales agents for "Freon" refrigerants to the wholesale level.

Effective Dec. 26, all sales of "Freon" to wholesale outlets will be made through those two agents, the company said, although billing, credit handling, and customer selection will remain the responsibility of the du Pont company. In addition, sales of "Freon" through existing national distributors will be discontinued on that date.

Under the revised system, explained Joseph C. Hoopes, manager of field distribution for the "Freon" Products Div., du Pont sales representatives who formerly contacted refrigeration wholesalers will assume additional responsibilities in "coordination and sales promotional activities, assisting du Pont sales agents and wholesalers in achieving sales goals."

Sales representatives of the division, however, will continue to handle direct sales to refrigeration equipment manufacturers, aerosol loaders, and specialty accounts.

"An analysis of this revision in our distribution and pricing," Hoopes said, "reveals both a simplification of our system and the creation of a strong sales team. We feel confident that this new system contains all the element necessary to produce the aggressive selling effort needed to meet the increased competition of the future."

Houston Leads Way--

(Concluded from Page 1, Col. 5)

more room air conditioners than the residents of Dallas and Fort Worth combined, Steitler reported, and more than twice as many room units as the residents of San Antonio.

A July heat wave, in which daily temperatures remained between 95 and 100 on most afternoons, is due part of the credit, Steitler said. However, for many years Houston has considered itself the world's air conditioning capital because of the continuing high per capita amount of residential and commercial facilities in operation, it was noted.

Post Office Cooling

BARNWELL, S. C. — Ruttan Builders, of North Augusta, has been awarded a contract by the U. S. Post Office Dept. to construct an air conditioned building to house the Barnwell Post Office.

Who Threw the Filter?--

(Concluded from Page 1, Col. 4) filter area. FHA-insured homes — with a 1,200 c.f.m. rating could accommodate 4 sq. ft. of filter area.

He doubted that return air inlets on packaged residential units could take that much filter face area either. He told the NEWS about it.

CHECK FAILS TO FIND 'RIGHT' FILTER

A quick check of filter face area and c.f.m. ratings as reported in the NEWS air conditioning specifications issue last spring failed to find any that came up to the FHA requirement.

A check was made with FHA in Washington, D. C. Fred McGhan, chief of the mechanical engineering section, could not give an interpretation of the requirements.

He said he believed that it was taken from air conditioning standards drawn up by the American Society of Refrigerating Engineers or the American Society of Heating & Air-Conditioning Engineers.

C. W. MacPhee, technical assistant at ASHAE headquarters told the NEWS, "we know of no ASHAE standard that recommends air capacity per sq. ft. of

Joe Bergheim, technical secretary of Air-Conditioning & Refrigeration Institute, who had worked with FHA in drawing up the new ME-13, said he had no idea where this requirement came from. It had not appeared in any of the drafts of the bulletin circulated to manufacturers.

He promised to look into the matter.

Just last week, he wrote the NEWS:

WHAT HE WROTE

"In informal discussions with FHA officials, they have indicated a willingness to correct the 300 c.f.m. requirement to a more realistic suggestion based on ARI comments.

"We are presently in the process of asking the industry for comments, and I feel certain that we will eventually obtain a more realistic requirement. It will probably be 30 to 60 days before we are able to advise FHA of the industry consensus.

"We certainly appreciate your calling this matter to our attention. Since receipt of your letter, we have had similar comments from our manufacturing members."

G-E Redesigns Room Unit Compressors--

(Concluded from Page 1, Col. 2) go up at least 20 to 25% next year and may very easily reach 2 million units.

That figure would be 30% above this year's industry estimate of 1.5 million units.

Augenstein declared, "This year, with very little help from the weather, the industry will sell about as many room air conditioners as it did last year. It has done this at a time when other appliance sales were soft. When you hold even under cool summer conditions, I call it a good year."

Calling attention to the department's recently completed factory building at General Electric's Appliance Park in Louisville, Ky., Augenstein said that the 1958 models would reflect his department's new ability to "make the whole unit ourselves." In previous years the department has purchased from outside suppliers some of the components assembled at its former Erie, Pa. plant.

T. D. Eberhard, manager of marketing for the department, told dealers and distributors, "This year many people bought room air conditioners as a good

investment in comfort regardless of the weather at the moment they bought."

Eberhard also called attention to the meeting itself as a happy example of big business and small business working together.

"All of our dealers are independents," Eberhardt said, "and most of you are what are called small businessmen. We certainly can't exist without you, and we aim to make a product so good that you won't want to exist without us. It seems to me that is the healthiest sort of relationship."

Westinghouse Will Make Ward's Room Conditioners

CHICAGO — Westinghouse Electric Corp. will make the Ward room air conditioner next year, Montgomery Ward & Co. has indicated. These units were formerly supplied by Lonergan Div., McGraw-Edison Co.

Westinghouse is currently making automatic washers, dryers, some television sets, and some electric housewares for Montgomery Ward.

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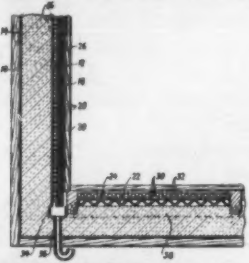
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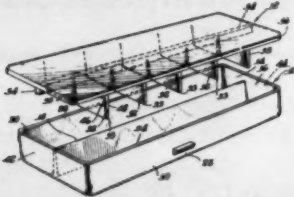
Week of September 3

2,804,657. **HEAT INSULATED WALLS OF COLD-STORAGE ROOMS.** Carl Georg Munter, Stockholm, Sweden.



1. A heat insulated wall for cold storage rooms comprising a spaced outer casing and an inner lining, means providing a diffusion barrier adjacent to said casing on the inner side thereof, heat insulating material located between said casing and said lining and extending from said diffusion barrier toward said lining but spaced therefrom to the extent that the dew point of the water vapor normally diffused through the insulation from the ambient atmosphere is located in said space between said insulating material and said lining, means located in the space between said insulating material and said lining providing a surface for the collection and discharge of moisture diffused through said insulating material, and a drain communicating with said space for removing condensate collected on and discharged from said means, said means located in the space between said insulating material and said lining comprising one or more sheets arranged in said space and disposed to collect condensed moisture and effect gravity drainage thereof to said drain out of contact with the insulating material.

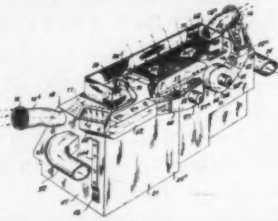
2,804,755. **ICE CUBE TRAY.** Harry R. Ansel, Elmwood Park, Ill.



1. A freezing and storage container for ice cubes, and comprising a substantially rectangular pan having a divider disposed longitudinally thereof and extending from the base of the pan upwardly toward the open end thereof, a cover for said pan and having transverse dividers integral therewith and depending therefrom a distance such as to substantially contact the base of the pan when the cover is placed thereon, the said transverse dividers on said cover each having a notch intermediate the ends thereof to substantially complement

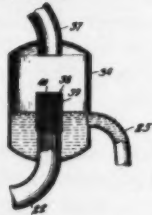
and straddle the said longitudinal divider in abutting relation therewith when the cover is placed on the pan and freely separable therefrom with the cover when the cover is removed; the assembly of pan, cover and dividers being formed of flexible plastic material capable upon manual flexing to release the ice cubes for ready removal therefrom.

2,804,756. **PACKAGE UNIT VEHICLE AIR CONDITIONING APPARATUS.** James W. Faulhaber, Cleveland, Ford W. Fisher, Bedford, Homer C. Simons, South Euclid, and Thomas W. Murray, Cleveland, Ohio, assignors to Eaton Mfg. Co., Cleveland, Ohio.



2. In a vehicle having a compartment to be air conditioned and a utility space located beneath a deck extending transversely of the vehicle and forming a wall of said compartment; an air conditioning apparatus in the form of a prefabricated package unit located in said space and comprising a housing spaced from said deck and having therein a cooling means and means for causing a flow of conditioning air in heat-exchange relation to said cooling means; said deck having a laterally elongated opening therein for passage therethrough of said conditioning air and said housing having a laterally elongated top opening located beneath the opening of said deck; flexible mounting devices mounting said unit on said vehicle for limited movement relative thereto; and flexible conduit means having a generally rectangular and laterally elongated cross-sectional shape and extending between said housing and deck and forming a passage connecting said top opening with the opening of said deck; said flexible conduit means being mounted on and supported by said housing and embodying expansion means tending to extend said conduit means upwardly for pressing the upper end of said conduit means against the underside of said deck.

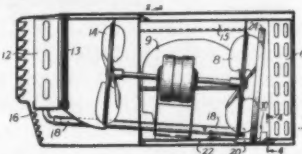
2,804,757. **ABSORPTION REFRIGERATION.** Hugo Malcolm Ullstrand and Axel Gosta Hellstrom, Stockholm, Sweden, assignors to Aktiebolaget Elektrolux, Stockholm, Sweden, a corporation of Sweden.



14. In an absorption refrigeration system, a heat or material transfer

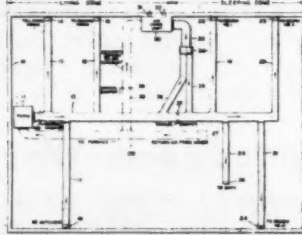
device for a liquid absorbent comprising means forming a path of flow for the liquid having a wall inclined at an acute angle to the horizontal to provide a predetermined slope, said wall having capillary grooves in its surface extending lengthwise of the path of flow and along each of which liquid flows only in a downwardly direction, means for supplying liquid to the grooves at the upper end of said wall, and said grooves utilizing the combined forces of capillarity and gravity to cause liquid to continuously flow along the grooves lengthwise of the path of flow.

2,804,758. **AIR CONDITIONER HAVING AUTOMOTIVE DRAIN MEANS.** Lewis R. Smith and Herbert L. Laube, Auburn, N. Y., assignors to Remington Corp., Auburn, N. Y.



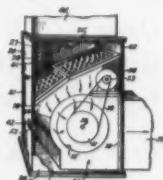
1. In an air conditioning unit, a refrigeration system including an evaporator which is adapted to cool and dehumidify air and a condenser which is adapted to transfer heat to air and which is exposed to outside temperature conditions, said system including a motor means and a pair of fans driven simultaneously thereby, one of which circulates air to and from a conditioned space and the other of which directs air over said condenser, condensate-handling means to collect condensate from said evaporator and to deliver it for disposal to the outside atmosphere and including means mechanically connected to said other fan whereby the freezing of the condensate will interfere with the operation of said motor means, and temperature-controlled drain means which opens a drain passageway when the temperature falls below a predetermined value above 32° F. whereby the condensate handling means is drained so as to avoid the freezing of water therein.

2,804,816. **ECONOMY AIR CONDITIONING SYSTEM.** James L. Hoyer, Washington, D. C.



1. An economy air cooling system for use in a building having a hot air furnace, a main air duct extending therefrom, branch air ducts extending from the main air duct to the various rooms, and an air return duct to the hot air furnace, the building rooms being divided into a sleeping zone and a living zone; damper means in the main air duct dividing the branch air ducts leading to one zone from the branch air ducts leading to the other zone, a second damper means in the main air duct for closing the main air duct to the hot air furnace, an air cooling unit, an air return duct branching from the hot air furnace air return duct and leading to said air cooling unit; damper means in said branching air return duct, a cooled air duct leading from said air cooling unit, said cooled air duct being bifurcated and providing two separate cooled air ducts leading therefrom and entering said main air duct at points on opposite ends of said main duct dividing damper means, damper means adjacent the point of bifurcation operable for selectively directing cooled air from said air cooling unit into either of but not both of said two separate cooled air ducts and thus through one part of the divided main air duct and its branch air ducts to one but not both zones of the building, whereby when both said main air duct damper means are opened and said branching air return duct damper means is closed, said air cooling unit is operatively cut off from all said ducts and the hot air furnace is operatively connected to all said ducts for normal operation, and when both said main air duct damper means are closed and said branching air return duct damper means is open, the hot air furnace is operatively cut off from all said ducts and said air cooling unit is selectively operatively connected to either but not both building zones.

2,804,839. **AIR FILTER ALARM SYSTEMS AND AIR FILTER ALARM UNITS.** William W. Hallinan, Racine, Wis.



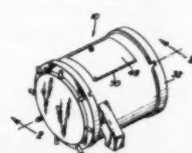
1. A filter alarm system comprising, an air enclosure having an air inlet and air outlet, a blower adapted to take air from the air inlet and to discharge it from said outlet, an air filter

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

Printed copies of patents, reissued patents, and patent designs may be secured from the Patent Office; patents and reissues are 25¢ each, while designs are furnished at 10¢ each. Copies should be ordered by number and title and a mention of the fact if they are either Designs or Reissues.

Address orders for any of the above to: Commissioner of Patents, Washington 25, D. C.

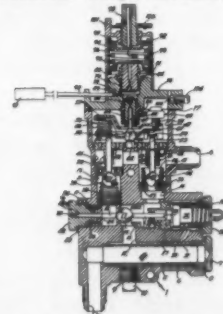
extending across said enclosure in such manner as to cause all of the air passing from inlet to outlet to pass through a portion of said filter, a movable signal device located to be subjected on one of its sides to the suction pressure and to be subjected on the other of its sides to a differential of pressure, this differential being negligible when the filter is clean, said signal device having an air pressure actuated signal member which is actuated when the differential of pressure increases a critical amount caused by the clogging of the filter, and giving a signal to the user that the filter should be cleaned or replaced with a new filter, said signal device including a valve member which is actuated by predetermined differential of pressure on the opposite sides of said valve member, the said valve member exhibiting a visible signal that the filter is dirty.



2,804,996. **ICE CUBE CONTAINER AND DISPENSER.** Palmer J. Werner and Arthur W. Uhlenkott, Chippewa Falls, Wis.

1. A dispensing apparatus for delivering ice cubes in unaltered form comprising an elongated, insulated cylindrical drum, a shaft extending axially through said drum, bearings rotatably journaling said shaft in the ends of said drum, a dispensing wheel disposed within said drum adjacent one end thereof, said dispensing wheel comprising a hub fixed on said shaft for rotation therewith, a plurality of circumferentially spaced, flat blades extending outward from said hub and forming with said hub a plurality of ice cube receiving pockets therebetween, each pocket being closed at its rear, said shaft having a threaded portion within said drum, a feed plate threadedly received on the threaded portion of said shaft, guide means including a rib and slot within said drum slidably and non-rotatably retaining said feed plate therewithin, said drum having a dispensing opening therein adjacent said dispensing wheel, at least one end of said shaft projecting beyond said drum, and means on said one end of said shaft for rotating said shaft.

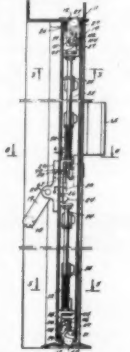
2,805,025. **HEATING AND COOLING CONTROL VALVE.** Earnest J. Dillman, Detroit, Mich., assignor to Detroit Controls Corp., Detroit, Mich.



1. In a control valve, a casing having a fluid inlet and a fluid outlet, a pair of passageways in said casing interconnecting said inlet and outlet, valve seats in the inlet ends of said passageways, laterally spaced outlet valve seats in the outlet ends of said passageways, a valve member positioned for movement between the valve seats at said passageway inlet ends to direct flow through one or the other of said passageways, a thermostatic power element positioned for response to temperature of a fluid passing through said valve and operable to move said valve member to direct a cooling fluid through one of said passageways and a heating fluid through

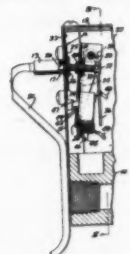
the other passageway, a pair of laterally positioned outlet valve members cooperable with the valve seats at the outlet ends of said passageways, one of said outlet valve members being positioned on the inlet side of its seat, a pair of springs cooperable one with each of said last named valve members, one of said springs exerting a greater force than the other of said springs and urging said one valve member toward closed position, said other spring urging said other valve member toward open position.

2,805,091. **PANIC LATCH.** Walter L. Clifton, Jr., Atlanta, Ga., assignor, by mesne assignments, to American Art Metals Co., Atlanta, Ga.



1. In combination with a door mounted for swinging movement about a vertical pivot and having upper and lower horizontal edges and a vertical outer edge extending between said upper and lower edges, a panic latch assembly comprising retractable latch members normally projecting from the upper and lower edges of the door adjacent to said vertical outer door edge, spring means biasing said latch members toward their respective normal projecting positions, the upper latch member being mounted for pivotal movement about a horizontal pivot located downwardly from the upper door edge and nearer to the inner side of the door than to the outer side of the door and the lower latch member being mounted for pivotal movement about a horizontal axis located upwardly from the lower door edge and nearer to the inner side of the door than to the outer side of the door, a projection on said upper latch member extending downwardly from said upper latch member toward the outer side of the door, a projection on said lower latch member extending upwardly from said lower latch member toward the outer side of the door.

2,805,303. **THERMOSTATICALLY OPERATED SAFETY DEVICE.** Samuel G. Eskin, Chicago, Ill., assignor to The Dole Valve Co., Chicago, Ill.



1. In a thermostatically operated switch, a plate having a flat metal diaphragm sealed to said plate adjacent its margin for extensible movement with respect thereto, an inlet through said plate to said diaphragm, a capillary tube leading from said inlet and containing an expansible fluid at its outer end, a switch arm pivoted in spaced relation with respect to said diaphragm and extending thereover, an engaging connection between switch arm and diaphragm for pivotally moving said switch arm upon extensible movement of said diaphragm with respect to said plate, means biasing said engaging connection toward said diaphragm, and switching means carried on said switch arm and operable to complete one electric circuit upon movement of said switch arm away from said plate effected by extensible movement of said diaphragm with respect to said plate and to complete a second circuit upon retractable movement of said diaphragm with respect to said plate and pivotal movement of said switch arm toward said plate.

Conditioning Engineers Reorganize as Partners

GREENSBORO, N. C.—The firm of Cofer, Rouse & Jeglinski, consulting engineer in the plumbing, heating, air conditioning, and electrical field, has been organized here as a partnership.

Members of the firm include Clyde A. Cofer, Durwood E. Rouse, Boleslaw Jeglinski, and Wilbur E. Andrews. Offices have been opened at 1304 E. Wendover Ave.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

WANTED: ADDITIONAL heating, cooling or associated product lines for representation in the West Coast states. Present territory covers 11 Western states. We can act as stocking distributor and repair depot or manufacturer's representative selling to wholesalers and original equipment manufacturers. Located in San Francisco Bay area. BOX A5899, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SERVICE ENGINEER: Acme Industries, Inc. is expanding their service organization and needs an alert, enthusiastic, sales-minded service engineer who has proven experience and knowledge in commercial and industrial air conditioning and refrigeration equipment. This position at the home office is an outstanding opportunity for the right person. Write, giving full details of your background and experience to Jack J. Bacsik, Service Manager, ACME INDUSTRIES, INC., Jackson, Michigan.

WE ARE looking for a man with several years of commercial refrigeration experience and one who is free to travel the Eastern states and live in New York City vicinity. Reply to CONRAD, INC., 141 Jefferson Street, Holland, Michigan.

AIR CONDITIONING sales and application engineer wanted by Carrier engineering contractor in fast growing San Diego area. Excellent opportunity. Compensation commensurate with ability. Please send details of experience and photograph. All replies strictly confidential. JACKSON & BLANC, 1970 Columbia St., San Diego 1, Calif.

HEATING ENGINEER—Indiana manufacturer has opening for heating engineer experienced in sectional gas furnace design or testing. Excellent growth opportunity. Salary open. Paid group insurance, vacation and other benefits. Send resume to Mr. Meyer, PEERLESS CORPORATION, 1853 Ludlow Avenue, Indianapolis, Indiana.

COMMERCIAL REFRIGERATION representative for Ohio, Indiana, West Virginia. Must be experienced in field work, or have successful background selling commercial refrigeration. Draw expenses. Firm well known in territory. Send complete details about experience, firms represented, present activities and reference. All held in strict confidence. BOX A5891, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED USED refrigerators in working condition—Large lots of same model from apartments or projects, anywhere in U. S. No assorted trade-ins. BEACH REFRIGERATOR CO., 196-11 Northern Blvd., Flushing 58, New York. Phone Flushing 7-6161.

MISCELLANEOUS

ATTENTION SERVICEMEN: Send for free circulars and bulletins on refrigeration parts and equipment. Real money saving values: WALTER W. STARR, 2833 Lincoln Avenue, Chicago 13, Illinois.

For more information about products advertised on this page use Information Center, page 14.

Servicing Automobile Air Conditioners

(Vol. 2)

BY C. DALE MERICLE

The Mobilette unit is the eighth make to be discussed in the current series on automobile air conditioners. Makes previously described in this series were A.R.A., Artic-Kar, Frigette, Frigikar, Kauffman, Mark IV, and Airtemp. Other makes by "independent" manufacturers will be reviewed in future instalments, following which units of most automobile manufacturers themselves will be described.

Models discussed in the current series are 1956 and/or 1957. For data on earlier models readers are referred to the original series of articles, which is available now in the handy manual, *Servicing Automobile Air Conditioners*.

MOBILETTE (2)

Mobil-Aire Mfg. Co.
P.O. Box 122
Denison, Texas

SERVICE HINTS

Evacuating System

Following initial installation, or after the system has been opened for repairs, a Mobilette air conditioning system must be evacuated to remove air and moisture. The evacuation process also serves as an excellent indication of leaks.

Factory-recommended evacuation procedure calls for the system to be operated, with gauge manifold connected, at high idle speed. A vacuum of 20 to 28 in. should be obtained in 20 minutes.

At this point the discharge valve on the gauge manifold should be closed and the car engine stopped. If the vacuum fails to hold, there is a leak. Even if the vacuum holds, the manufacturer recommends testing the system for leaks.

For leak testing following evacuation, enough Refrigerant-12 should be admitted to system to bring both high-pressure gauge and suction-pressure gauge up to 65 p.s.i.g. System is then checked with a halide torch.

Charging System

Mobilette systems are charged

through the low side in the conventional manner with the car engine operating at fast idle.

Charge is approximately 2 lbs. of Refrigerant-12. This will vary somewhat between different makes and models of cars, depending on the length of the lines.

Absence of bubbles in the sight glass indicates a full charge.

Trouble Chart

The following will serve as a guide in checking service complaints on 1957 Mobilette conditions:

No cooling.

This can result from one of, or a combination of, the following:

1. Drive belt broken.
2. Loose electrical connections to clutch and/or blowers.
3. Fan motors inoperative.
4. Blower switch failure.
5. Clutch switch failure.
6. De-icer switch failure.
7. Clutch failure.
8. Evaporator blocked with ice.

9. Loss of the refrigerant charge.

10. Expansion valve plugged by ice, foreign matter, or otherwise inoperative.

11. Lines or drier plugged.

12. Compressor failure.

Insufficient cooling.

This can be caused by one of, or a combination of, the following:

1. Drive belt slipping.
2. Clutch slipping.
3. Shortage of refrigerant.
4. Overcharge of refrigerant.
5. Loose electrical connections.
6. Condenser blocked by dirt, bugs, etc.
7. Compressor service valves partially closed.
8. Blowers not operating properly.
9. Lines or drier restricted.
10. Expansion valve partially plugged.

(Next instalment will describe the Novi auto air conditioner manufactured by Novi Sales & Service Co., Inc., Novi, Mich.)

Thinking of —

- changing territories
- expanding your territory
- taking on new lines —

Check the
CLASSIFIED ADS

Your opportunity may
be there.

Worthington Service Meetings Get Underway

HARRISON, N. J.—The annual Worthington air conditioning and refrigeration service meetings got under way recently at the corporation's Ampere, East Orange, N. J. plant.

Under the direction of E. D. Lindsley, Worthington Technical-Service Section supervisor, the nine-week series of lectures on central station refrigeration and air conditioning equipment, and package, residential, and heating equipment, are being attended by Worthington air conditioning and refrigeration dealers and wholesalers.

The service meetings are part of a sales training program initiated a year ago by the corporation to train Worthington representatives of packaged and central station equipment to work closely with dealers and dealer salesmen and effectively train them to sell Worthington products at the retail level.

Among some of the topics slated for discussion this year are: principles of refrigeration; compressors; piping systems; shell and tube condensers; air handling units; system problems; SCY units installation and service; "Flexi-Cool" installation and service; heating equipment; gas and oil burners and their controls.

Central New York RSES Co-Sponsors Course

SYRACUSE, N. Y.—A practical refrigeration course for members of the Central New York Chapter, Refrigeration Service Engineers Society, started at H. W. Smith Technical and Industrial high school.

Leon K. Shattell, president, said instructors for the course are Stewart Segerstrom, training engineer of Lennox Industries, and William Tyson of Carrier Corp.

Segerstrom will teach the Tuesday classes at Smith Tech, and Tyson will have the Wednesday evening class at Carrier's Geddes St. plant.

The course is being sponsored by the society and the Board of Education's adult education program.

Firm Chartered

JACKSON, Miss.—Charter of incorporation has been granted Controlled Air Comfort Co., Inc., air conditioning and heating equipment firm.

Government Contracts

SYNOPSIS OF PROPOSED PROCUREMENT

ARMY

Ft. Worth District Corps of Engineers, U. S. Army, Ft. Worth, Texas. HEATING, VENTILATING, AIR CONDITIONING, AND ADDITIONAL IMPROVEMENTS, furnish and install heating, ventilating, and air conditioning equipment; construct additional partitions; and make minor changes, and testing laboratory. Dallas, Texas—Job—IFB CIVENG-41-443-58-6—Bid Opening 7 Nov. 57.

NAVY

Navy Purchasing Office, 4th and Independence Ave., S. W., Washington, D. C. Attn.: SPF-1A. AIR CONDITIONER Model Nr-3, Trailer Mounted (Shore Based). Buair Spec. MMA-54 and exceptions—19 ea.—600-457-58—Bid Opening 7 Nov. 57.

GENERAL SERVICES ADMINISTRATION

General Services Administration, Region 2, Business Service Center, 250 Hudson St., New York 13, N. Y. CERTAIN AIR CONDITIONING at U. S. Mint, Philadelphia, Pa.—Job—IFB 2PC-8-488(ADVT)—Bid Opening 10/25/57.

Home Laundry Service Conference Held

CHICAGO—The Fifth Annual Industry-Wide Parts and Service Conference, sponsored by the American Home Laundry Manufacturers' Association, was held in the Michigan Room of the Edgewater Beach hotel, Chicago, recently, Guenther Baumgart, executive director of the association announced.

VOCATIONAL EDUCATION, CONSUMER RELATIONS STUDIED

Objectives of the meeting were to explore the vocational-educational, and public and consumer relations aspects of service for home laundry appliances.

In order to achieve these aims, the program was then divided into two major parts: "Better Service Through Basic Vocational Training," and "Solving Service and Public Relations Problems."

Speakers who then discussed vocational-educational service training included Ted C. Leisenring, coordinator, trade and industrial department, Denver Public Schools; Don Stover, Radio - Electronics - Television Manufacturers Association; and S. Robert Payne, general service manager, The Maytag Co.

QUESTION & ANSWER SESSIONS HELD

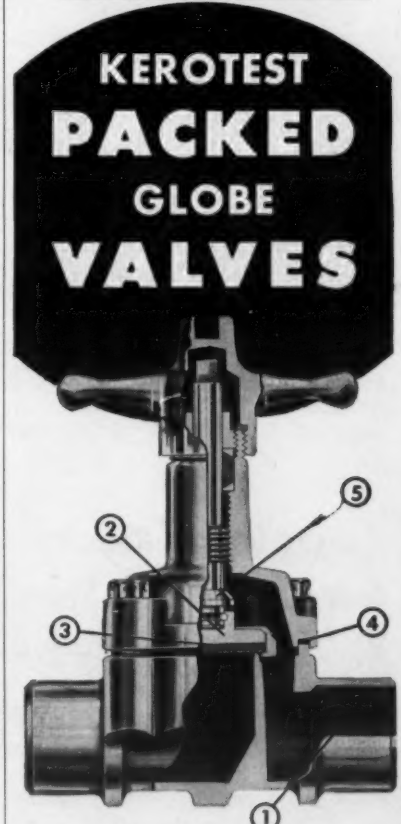
Following luncheon, that part of the program dealing with the public relations problems of service was discussed by John H. Miller, manager, product service, General Electric Co., C. E. Ruelle, product service manager, Hamilton Mfg. Co., and others.

Question, answer, and discussion period followed the morning and afternoon sessions.

The meet was open to all

AHLMA regular and associate members and their guests, including public school vocational department officials, it was explained.

- FULL FLOW
- * SELF ADJUSTING
- POSITIVE SHUT-OFF
- * LEAK-LOK BONNET SEAL
- REPACKS IN USE
- * TEMPERATURE PROOF



"Packed" with quality and of rugged brass construction, these valves are ideal for refrigeration and air conditioning systems, oxygen (degassed), nitrogen, compressed air and liquefied petroleum gases. Features: 1. Designed for full flow. 2. Floating disc for self-adjustment. 3. Quick seating disc for ease of operation. 4. Leak-proof with exclusive gasketing. 5. Repacks under pressure with positive back seating. Maximum operating pressure 500 p.s.i.—maximum temperature 200° F. See your Kerotest wholesaler.

R12 Series 1/4"-2 1/4" Forged Brass
R10 Series 2 1/4"-4 1/4" Cast Brass

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2502 Liberty Avenue
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3,500,000
REFRIGERATING
UNITS ARE NOW
OPERATING WITH
"SUPCO 88"

INCREASE

- LUBRICATION EFFICIENCY

SUPCO
"88"

OIL ADDITIVE

Should be used in every Compressor and Motor from a Sealed Unit to the largest industrial machine

- FILM STRENGTH

- SURFACE TENSION

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Local Jobber,
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POSITIVE SEALING INDICATORS
... your sign of **DEPENDABILITY** and **QUALITY**
USE IT WITH CONFIDENCE

- Pyrex glass, double pressure sealed at sides and ends.
- Positive check of refrigerant condition.
- Unrestricted full line flow.
- Spring-loaded gaskets insure positive seal against leakage.
- Guaranteed to 500 psi.
- Precision made.

USED BY LEADING MANUFACTURERS ON ORIGINAL EQUIPMENT
Sold by leading wholesalers everywhere
Write today for Catalog E-57 covering the complete Allin line



ALLIN MANUFACTURING CO.
410 N. Hermitage Ave. • Chicago 22, Illinois
Over 1,000,000 Liquid Eyes Sold to Date!

See the full Liquid Eye line at Allin Booth 662, A.R.I. Show, Chicago, November 18-21.

D-H Names Pollock To Head Air Conditioning, Refrigeration Division

LOS ANGELES—C. W. Pollock, for the past two years chief engineer, Drayer-Hanson, has been named manager, Air Conditioning and Refrigeration Div., at the firm's main plant facility, Harold T. Hunt, general manager, announced.



In this new capacity, Pollock will be responsible for both sales and engineering of all air conditioning and refrigeration products.

The appointment, stated to be "a major internal realignment," is described as a coordination move at D-H design-development, administrative, sales, production, and field representation levels.

With the advancement of Pollock, Drayer-Hanson's special projects engineer, A. J. Mallinkrodt, becomes chief development engineer. Sam Nelson, manager, Industrial Div. (the heat-transfer equipment section of D-H) will also continue in that capacity.

Pollock's association with Drayer-Hanson is long standing. In 1951, as vice president and chief engineer, he terminated a nine-year association with the company to head up his own factory representative group in the Pacific Northwest—C. W. Pollock Co., Seattle. The firm was Drayer-Hanson sales representative in that area, and handled other key manufacturers as well.

Before rejoining Drayer-Hanson in 1955, Pollock was associated with Trion, Inc. as regional sales manager of the 11 western states, the company stated.

Kansas Utility Reports Aug. Central Unit Sales Up 29% over '56 Period

WICHITA, Kan.—Despite the fact that August central air conditioner sales in its territory were less than half of what they were in July, they were still 29% better than they were in August last year, the Kansas Gas & Electric Co. reported recently.

For the first eight months, central air conditioner sales were 18% ahead of the same period last year. Southeastern Kansas dealers sold 75 units in August and 646 in the eight months, the utility further reported.

Room air conditioner sales for August dropped off sharply. The 939 units sold during the month were 44% under the same month last year.

The 6,991 sold in the first eight months were 6% less than last year.

Sales of 225 home freezers in August represented a 16% drop, while 817 refrigerators sold represented a 26% decline. For the first eight months, both freezer and refrigerator sales were off 10% from last year, it was explained.

Los Angeles In May

Set Western Show for Alternate Years Following 1958 Exhibition

LOS ANGELES—After the 1958 exhibit, the Western Air Conditioning, Heating, Ventilating, and Refrigeration Exhibit and Conference will be held every other year, the sponsoring Western Air Conditioning Industries Association has decided.

The 1958 show will be staged at the Shrine Exposition Hall here May 7 to 11.

Under this arrangement, the Western show will alternate with the national air conditioning and refrigeration shows, which are also held biennially.

The association recently elected William P. Tennity, president of Tennity & Co. here, its president. Arthur Hess, former president was elected vice pres-

ident, and Fred J. Tabery was re-elected secretary-treasurer.

Tennity appointed Hess and Henry Ulovec of Nehring & Hanson Co. to serve on a committee to formulate the technical portion of the 1958 program. Tabery is exhibit manager.

Re-elected to the board of directors of the association, which is dedicated to the advancement of air conditioning and related industries on the west coast, were:

Peter H. Askew of Thermal Products Co.; W. W. Allison, a former president of the Refrigeration Service Engineers Society; Richard Farr of Farr & Co.; R. E. Harkens of the Institute of Heating and Air Con-

ditioning Industries; E. L. Nelson of Union Ice Co.; D. E. Reznick of Airfan Engineering Co.; Robert H. Savage of Water Chemists, Inc.; Robert Warden of Guy L. Warden & Son Co.; and Ulovec.

Kansas City MCA Construction Institute Discusses Profits

KANSAS CITY, Mo.—A day-long mechanical construction institute attended by 210 architects, plant engineers, building owners and managers, contractors, and mechanical engineers was staged here recently by the Mechanical Contractors Association of Greater Kansas City.

Pleased with its success, the local group plans to stage such institutes annually in the future, according to F. O. Babcock, executive secretary of the firm.

A feature of the institute was a talk on the "Way to Profit" through use of year-round air

conditioning by John E. Haines, vice president of Minneapolis-Honeywell Regulator Co. He showed research results and statistics gathered recently which indicate increased production in an air conditioned environment.

C. E. Silling, Charleston, W. Va. architect, discussed "Modular Measurement" as a practical way to meet rising building costs. Other speakers were: Cary B. Gamble, consulting engineer from New Orleans, La.; Joseph H. Spitzley, Detroit contractor and national president of MCA; and local chapter President C. W. Schumacker of Air Contractors, Inc.

Instigated by the public relations committee of the local group, the institute was the result of many months of work. Spitzley complimented the group and urged others throughout the nation to follow the pattern set here, it was indicated.

SILENT

BLOWHARD

"BIG BOY" DIRECT DRIVE BLOWER FOR HEATING-COOLING COMBINATIONS

Theme of the thinking at Utility might be expressed:

"Make it blow—Make it better—Keep it quiet!"

Direct beneficiaries of this policy are manufacturers of heating, cooling, refrigerating and ventilating equipment. Newest visible expression of this passion for silence is a burly brute of a direct drive blower. "Big Boy" is its name. Strength and silence will be the cornerstones of its fame.

Its giant airflow capacity is great enough to handle up to 125,000 BTU—3-ton heating-cooling combinations. Compact and easily speed controlled, it delivers approximately 1,400 to 1,500 CFM at a static pressure of 0.75" WG to make "Big Boy" the most powerful direct drive blower now available, bar none.

First to create silent direct drive blowers with Neoprene hubs, Utility again is first with a direct drive blower of this capacity with super-quiet split capacitor motor. It makes sense to add the sales appeal of whisper-quiet operation to your larger equipment, so specify Utility's silent "Big Boy" Direct Drive Blower.

Check Utility for blowers, blower parts or any combination of parts. Here's what you'll discover:

YOU CAN'T MATCH UTILITY FOR PRODUCT AND PRICE!

A DIVISION OF UTILITY APPLIANCE CORP.

UTILITY FAN CORP.

911 East 59th Street, Los Angeles 1, California

Manufacturers of heavy and standard duty blowers for heating, air conditioning and ventilating installations. Producers of blowers and blower parts for original equipment manufacturers. Write for catalogue data.

